LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday, May 21, 2025

Agenda Item
Item 7. C. - Fen Invasive Species Mapping Project

Prepared By
Linda Loomis, Administrator

Summary
The LMRWD continues its Fen Stewardship Project. A Request for Information was released by Young Environmental Consulting Group, on behalf of the LMRWD. The Request was to firms to assist the LMRWD in mapping invasive species within the calcareous fens.

A report of the responses received by the LMRWD can be found in Technical Memorandum – LMRWD Fen Invasive Species Mapping Project dated May 14, 2025, with project recommendations.

Resolution 25-06 To Approve Services for the Fen Invasive Species Mapping Project is attached for the Board to adopt approving MNL as the firm to provide invasive species identification services and management recommendations for the Fen Invasive Species Mapping Project.

Attachments
- Resolution 25-06 To Approve Services for the Fen Invasive Species Mapping Project
- Technical Memorandum – LMRWD Fen Invasive Species Mapping Project dated May 14, 2025

Recommended Action
Motion to adopt Resolution 25-06 To Approve Services for the Fen Invasive Species Mapping Project

_____ introduced the following resolution and moved its adoption:

RESOLUTION 25-06

LOWER MINNESOTA RIVER WATERSHED DISTRICT

TO APPROVE SERVICES FOR THE FEN INVASIVE SPECIES MAPPING PROJECT

WHEREAS, the Lower Minnesota River Watershed District (LMRWD) approved its watershed management plan pursuant to Minnesota Statutes section 103B.231 (the Plan) on October 24, 2018; and

WHEREAS, calcareous fens are legally protected rare wetland ecosystems found within the LMRWD; and

WHEREAS, the Plan identifies the Fen Stewardship and Management Program (the Project) in its Implementation program for the purpose of developing strategies to effectively manage and protect these groundwater-dependent resources; and

WHEREAS, since 2017, the LMRWD has worked in collaboration with the Minnesota Department of Natural Resources to address threats and implement effective management strategies to preserve the unique biodiversity and ecological value of calcareous fens; and

WHEREAS, the introduction of non-native species has been identified as one of numerous threats leading to decline in the diversity and health of the ecosystem; and

WHEREAS, mapping of non-native species is critical to the control and eradication of invasive species; and

WHEREAS, the Young Environmental Consulting Group, LLC, on behalf of the LMRWD, released a Request for Information to map invasive species and recommend management strategies. Five applications were received, and evaluated; and

WHEREAS, MNL submitted a bid that demonstrates an understanding of the critical importance of managing invasive species within the fen as a form of native species preservation, and is determined by the Board of Managers, on the basis of recommendations of District staff and consultants, to be a responsible bidder.

NOW, THEREFORE, BE IT RESOLVED, that the Lower Minnesota River Watershed District Board of Managers approves MNL as the firm to provide invasive species identification services and management recommendations for the Fen Invasive Species Mapping Project; and

BE IT FURTHER RESOLVED that the LMRWD Board of Managers authorizes the Administrator to execute a contract for the Project in the amount of $25,200.

The question was on the adoption of the Resolution and there were ___ yeas and ___ nays as follows:

	Yea	Nay	Absent	Abstain
BARISONZI	☐	☐	☐	☐
KUPLIC	☐	☐	☐	☐
SALVATO	☐	☐	☐	☐
VISWANATHAN	☐	☐	☐	☐
WILLIAMS	☐	☐	☐	☐

Adopted by the Board of Managers of the Lower Minnesota River Watershed District on this 21st day of May 2025.

_____

Joseph Barisonzi, President

ATTEST:

_____

Lauren Salvato, Secretary

Technical Memorandum

Young Environmental Consulting Group, LLC

To: Linda Loomis, Administrator
Lower Minnesota River Watershed District (LMRWD)

From: Jenny Mocol-Johnson, Water and Natural Resources Program Manager

CC: Dan Tix, Restoration Ecologist, Minnesota Native Landscapes (MNL)
Will Lytle, Incoming Administrator (LMRWD)

Date: May 14, 2025

Re: LMRWD Fen Invasive Species Mapping Project—Project Recommendation

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On April 17, 2025, Young Environmental Consulting Group, LLC (Young Environmental), released a request for information (RFI) on behalf of the Lower Minnesota River Watershed District (LMRWD) for the Fen Program. Young Environmental emailed the RFI directly to the following consulting firms in the LMRWD engineering pool: Barr Engineering Co.; I&S Group, Inc. (ISG); Geosyntec Consultants, Inc.; Bolton & Menk, Inc. (Bolton & Menk); Emmons & Olivier Resources, Inc. (EOR); Curt Kleist Wetland Services, Inc. (CK Wetlands); Minnesota Native Landscapes (MNL); and Ulteig Engineers, Inc.

The LMRWD Fen Invasive Species Mapping Project involves two tasks: (1) mapping invasive species and (2) making comprehensive recommendations for management strategies. The first task, mapping invasive species, is requested for the Gun Club North, Gun Club South, Nicols Meadow, Seminary, and Savage fens. The information obtained from mapping efforts will serve as the baseline in determining appropriate site-specific management strategies (task 2), which involves the development of a comprehensive management strategies document. The deadline for proposal submission was May 1, 2025, with the intent that the awarded consultant would complete scoped tasks by late summer 2025.

The LMRWD received five (5) applications prior to the May 1, 2025, deadline from the following entities: Bolton & Menk, EOR, CK Wetlands, ISG, and MNL.

Review Process

Young Environmental reviewed the project submittals based on demonstrated project understanding, thoughtfulness of approach, technical qualifications, and the overall proposed cost to determine the responsiveness of the bidder. To evaluate the submittal objectively, Young Environmental staff reviewed it individually and met to discuss key points.

As detailed in Table 1, Young Environmental evaluated proposals using the following scored criteria:

1. Requirements: Are requirements and specifications addressed?
2. Schedule: Is the timeline clear and realistic?

3. Approach: Are technologies and methodologies clear and suitable?
4. Budget: Is the budget detailed and transparent?
5. Qualifications: Are all personnel qualified? What experiences prove this qualification?
6. Risk: Does the project team understand the project and its risks?
7. Innovation: Is the approach thoughtful, creative, innovative, and demonstrative of field expertise?
8. Response or proposal completeness: Is the proposal complete?

For each proposal, Young Environmental gave each criterion a score of 1 to 5. A breakdown of the scoring legend is included in Table 1. Each score was then weighed (10%–15%) and summed to obtain a cumulative score of 1 to 5. Higher scores represent a proposal's ability to meet more of the evaluation criteria effectively.

Based on the presented information, MNL's proposal (recommended, see MNL Submittal section below) received a score of 4.33 points from a maximum of 5 points, placing it in the excellent to exceptional category for the LMRWD (Table 1).

Table 2 shows the scoring of the proposals based on alignment with the goals, policies, and strategies of the LMRWD Fen Invasive Species Mapping Project.

Table 1. Proposal evaluation and scoring rubric

Criteria: Requirements			
Adequacy and Description	**Exceptional:** All relevant requirements/specifications are thoroughly and accurately addressed; comprehensive, technically sound, and have no major omissions; ready for implementation	**Score**	5.0
	Excellent: Requirements/specifications are clearly presented and mostly complete; minor improvements needed for clarity or completeness; generally solid		4.0–4.9
	Good: Most key requirements/specifications are covered with some minor gaps; address the majority of what was expected but lack full detail or clarity		3.0–3.9
	Fair: Attempt is made, but significant components are missing or misunderstood; requirements/specs are partially referenced but incomplete or off target		2.0–2.9
	Poor: Requirements/specifications are largely absent or completely incorrect; no evidence of requirements or specifications being considered; major gaps or inaccuracies		1.0–1.9
Criteria: Schedule			
Adequacy and Description	**Exceptional:** All work is completed within the designated time frame, and a detailed schedule is provided, clarifying efficiencies	**Score**	5.0
	Excellent: The majority of work is done earlier than the designated time frame		4.0–4.9
	Good: All work is completed within the designated time frame		3.0–3.9
	Fair: Majority of project work is accomplished within designated time frame		2.0–2.9
	Poor: Work will not be accomplished within designated time frame		1.0–1.9
Criteria: Approach			
Adequacy and Description	**Exceptional:** Methods are clear with detailed information indicating exceedance of industry standards	**Score**	5.0
	Excellent: Methods are clear with detailed information that aligns with industry standards		4.0–4.9
	Good: Methods are clear and align with industry standards.		3.0–3.9
	Fair: Methods are unclear but align with industry standards		2.0–2.9
	Poor: Methods are unclear and deviate from industry standards		1.0–1.9
Criteria: Budget			
Adequacy and Description	**Exceptional:** Budget includes only necessary tasks, efficiencies are identified, and costs are significantly lower than available funding	**Score**	5.0
	Excellent: Budget includes only necessary tasks, efficiencies are identified, and costs are moderately lower than available funding		4.0–4.9
	Good: Budget includes only necessary tasks and is slightly lower than available funding		3.0–3.9
	Fair: Budget uses all available funding, and budgeted tasks may not be necessary for project scope		2.0–2.9

	Poor: Budget exceeds available funding		1.0–1.9
Criteria: Qualifications			
Adequacy and Description	**Exceptional:** Designated team is identified; all members exceed qualifications to complete the project scope	**Score**	5.0
	Excellent: Designated team is identified, all members meet necessary qualifications, and some members exceed the qualifications required to complete the project scope		4.0–4.9
	Good: Designated team is identified and meets the necessary qualifications to complete the project scope.		3.0–3.9
	Fair: Designated team is identified, but only select members are qualified to complete the project scope		2.0–2.9
	Poor: Designated team is not identified or is underqualified to complete the project scope		1.0–1.9
Criteria: Risk			
Adequacy and Description	**Exceptional:** Multiple considerations of risk are identified, and mitigation strategies are incorporated	**Score**	5.0
	Excellent: Multiple considerations of risk are identified, and a detailed understanding is provided without mitigation strategies		4.0–4.9
	Good: Risk is identified in the proposal, and applicant has a general understanding		3.0–3.9
	Fair: Risk is considered in the proposal, but comprehensive understanding of project risk is not developed		2.0–2.9
	Poor: Risk is not addressed in the proposal		1.0–1.9
Criteria: Innovation			
Adequacy and Description	**Exceptional:** Methods are creative and innovative with detailed information indicating exceedance of industry standards	**Score**	5.0
	Excellent: Methods are creative and innovative with detailed information that aligns with industry standards		4.0–4.9
	Good: Methods are clear and align with industry standards but do not propose an innovative approach		3.0–3.9
	Fair: Methods align with industry standards but are unclear and do not propose an innovative approach		2.0–2.9
	Poor: Methods are unclear and deviate from industry standards		1.0–1.9
Criteria: Response or Proposal Completeness			
Adequacy and Description	**Exceptional:** Proposal is complete, and detailed information indicates an ability to implement the proposal with efficiencies	**Score**	5.0
	Excellent: Proposal is complete and includes thorough details on implementation		4.0–4.9

	Good: Proposal is complete with all information necessary for implementation		3.0–3.9
	Fair: The main items of project scope are complete, but sufficient details are not provided		2.0–2.9
	Poor: The proposal is underdeveloped and incomplete		1.0–1.9

Table 2: Fen Invasive Species Mapping RFP proposal evaluation form

Scoring Evaluation Criteria	Companies and Criteria Scores or Scoring						
	Bolton & Menk	CK Wetlands	EOR	ISG	MNL	Points Available	Weight
1. Requirements and specifications addressed clearly and comprehensively	3.8	4.5	3.8	4.5	4.0	5	10%
2. Proposed timeline is clear and realistic	5.0	5.0	3.8	5.0	5.0	5	10%
3. Technologies and methodologies proposed are clear and suitable for the project	3.5	4.3	4.5	4.3	4.0	5	15%
4. Budget is detailed and transparent (does not indicate hidden costs)	0.5	3.8	5.0	4.5	5.0	5	10%
5. Qualification and past performance of other key personnel	3.3	1.8	4.5	3.3	4.0	5	15%
6. Demonstrated project understanding, including project risks	4.0	4.3	4	3.8	4.5	5	15%
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice	3.5	4.8	2.3	4.0	4.5	5	10%

Scoring Evaluation Criteria	Companies and Criteria Scores or Scoring						
	Bolton & Menk	CK Wetlands	EOR	ISG	MNL	Points Available	Weight
8. Proposal completeness	3.8	4.5	4.5	4.5	4.0	5	15%
9. Proposed budget	**$85,562**	**$49,645**	**$23,600**	**$37,250**	**$25,200**		
Total Score (Weighted)	**3.45**	**4.01**	**4.11**	**4.17**	**4.33**	**5**	**100%**

MNL Submittal

MNL's submittal included a clear understanding of the critical nature of protecting fen wetland complexes through invasive species management. This understanding is reflected in the scoring evaluation of its proposal with MNL receiving between 4 (Excellent) and 5 (Exceptional) for all criteria (4.33 overall). The proposal included a multistep approach to best discern the existing conditions and locations of invasive species in the fen and use the data collected to provide an informed management approach.

MNL's approach includes the following:

- Mapping of invasive species using aerial imagery from a drone to identify unique communities of plants and assess abundance of invasive species
- Assessing the level of severity and potential for impacts to native communities for each area with invasive species identified
- Strategizing and prioritizing invasive species management for individual sites and specific patches of invasive species
- Providing a meaningful guidance document for future management of invasive species in the LMRWD fens

Budgetary Estimates

The cost proposal that MNL received includes a breakdown of tasks. Overall, Task 1-related activities (mapping and data collection) total $19,200, and Task 2-related activities total $6,000. The proposed project total is $25,200. This proposal is the second lowest estimated cost presented.

Recommendations

Based on our review of the submittal, MNL provided a qualified bid that demonstrates an understanding of the critical importance of managing invasive species within the fen as a form of native species preservation. The total fee associated with MNL's submittal is $25,200.

We recommend board approval of MNL as the firm to provide invasive species identification services and management recommendations for the Fen Invasive Species Mapping Project.

Attachments

- Attachment 1—Project Evaluation Form
- Attachment 2— Completed Proposal Evaluation Form
- Attachment 3—Proposals

Fen Invasive Species Mapping RFP
Proposal Evaluation Form

Submittal Number:	
Contractor Name:	
Review Panelist Name:	

Reviewed Evaluation Criteria	Review Code	Available Codes	Code Description
A. Estimate is within the available allocation		Y, N	Y - Requirements satisfied N - Requirements not satisfied

Scored Evaluation Criteria	Score (1.0 - 5.0)	Points (0 - 100)	Weight	Weighted Points
1. The requirements and specifications addressed clearly and comprehensively			10%	0.00
2. The proposed timeline is clear and realistic			10%	0.00
3. The technologies and methodologies proposed are clear and suitable for the project			15%	0.00
4. The budget is detailed and transparent (does not indicate hidden costs)			10%	0.00
5. Qualification and past performance of other key personnel			15%	0.00
6. Demonstrated project understanding, including project risks			15%	0.00
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice			10%	0.00
8. Proposal completeness			15%	0.00
		TOTALS	100%	0.00

COMMENTS/QUESTIONS FOR PROPOSER:

Scoring Legend
5 - Exceptional
4 - Excellent
3 - Good
2 - Fair
1 - Poor

Scores must be between 1.0 and 5.0
Decimals are OK if needed to differentiate proposals

Possible total weighted points range from 0 to 100, while the total possible score is a maximum of 800 points.

Fen Invasive Species Mapping RFP
Proposal Evaluation Form

Submittal Number:	**1**
Contractor Name:	**Bolton and Menk**
Review Panelist Name:	**Jenny Mocol-Johnson**

Reviewed Evaluation Criteria	Review Code	Available Codes	Code Description
A. Estimate is within the available allocation	N	Y, N	Y - Requirements satisfied N - Requirements not satisfied

Scored Evaluation Criteria	Score (1.0 - 5.0)	Points (0 - 100)	Weight	Weighted Points
1. The requirements and specifications addressed clearly and comprehensively	3.8	3.75	10%	0.38
2. The proposed timeline is clear and realistic	5.0	5.00	10%	0.50
3. The technologies and methodologies proposed are clear and suitable for the project	3.5	3.50	15%	0.53
4. The budget is detailed and transparent (does not indicate hidden costs)	0.5	0.50	10%	0.05
5. Qualification and past performance of other key personnel	3.3	3.25	15%	0.49
6. Demonstrated project understanding, including project risks	4.0	4.00	15%	0.60
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice	3.5	3.50	10%	0.35
8. Proposal completeness	3.8	3.75	15%	0.56
		TOTALS	100%	3.45

COMMENTS/QUESTIONS FOR PROPOSER:

Total Proposed Fee $85,562

B/M Currently implementing the fen contingency plan for the Greenway Trail Bridge Project, adjacent to Gun Club Lake South Fen.
Approach: Use both onsite meander surveys of invasive species and drone surveys to develop a composite invasive species map for each fen site. Drone surveys will be used to prevent damage of vegetation in sensitive areas. List will be developed and they will also note T&E Species.
Mapping will visually represent species, percent cover, and aerial cover.

All staff less than 5 years at B/M; and less than 5 years in career; 1 drone operator and 3 vegetation surveyors.

Scoring Legend
5 - Exceptional
4 - Excellent
3 - Good
2 - Fair
1 - Poor

Scores must be between 1.0 and 5.0
Decimals are OK if needed to differentiate proposals

Possible total weighted points range from 0 to 100, while the total possible score is a maximum of 800 points.

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Fen Invasive Species Mapping RFP
Proposal Evaluation Form

Submittal Number:	**2**
Contractor Name:	**EOR**
Review Panelist Name:	**Jenny Mocol-Johnson**

Reviewed Evaluation Criteria	Review Code	Available Codes	Code Description
A. Estimate is within the available allocation	Y	Y, N	Y - Requirements satisfied N - Requirements not satisfied

Scored Evaluation Criteria	Score (1.0 - 5.0)	Points (0 - 100)	Weight	Weighted Points
1. The requirements and specifications addressed clearly and comprehensively	3.8	3.75	10%	0.38
2. The proposed timeline is clear and realistic	3.8	3.80	10%	0.38
3. The technologies and methodologies proposed are clear and suitable for the project	4.5	4.50	15%	0.68
4. The budget is detailed and transparent (does not indicate hidden costs)	5.0	5.00	10%	0.50
5. Qualification and past performance of other key personnel	4.5	4.50	15%	0.68
6. Demonstrated project understanding, including project risks	4.0	4.00	15%	0.60
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice	2.3	2.25	10%	0.23
8. Proposal completeness	4.5	4.50	15%	0.68
		TOTALS	100%	4.11

COMMENTS/QUESTIONS FOR PROPOSER:

Total Proposed Fee $23,600

Task 1 Project Coordination. Attend up to 2 virtual mtgs with Fen Tech Work Group. Discuss work plan, present results of mapping, solicit feedback on management strategies. Kickoff mtg prior to fieldwork and a debrief mtg to present results and proposed management activities.
Task 2 Mapping. Review data, coordinate with LMRWD, prep GIS data to aid in field data collection. EOR will map all fens using sub-meter GPS. Mapping will consist of individual species or polygons with percent cover estimates based on level of infestation and species specific characterisitics. EOR will also record dominant native vegetation within invasive species polygons and in the vicinity of individuals, as well as incidental observations of listed rare plant species. Direct Experience in Area= Authorship of DNR's Savage Fen SNA Adaptive Mangement Plan in 2017. Task 2 Deliverables = GIS shapefiles, PDF maps. Delivery by late summer 2025.
Task 3 Invasive Species Management Plans. Deliverable include PDF report completed by end of 2025.
Staff 10-25 years experience.
Not clear in addition to 3 professionals listed if they intend to bring entry level technicians. Breakdown of expenses and costs not clear. Some additional notes listed appear not relevant for this project.

Scoring Legend
5 - Exceptional
4 - Excellent
3 - Good
2 - Fair
1 - Poor

Scores must be between 1.0 and 5.0
Decimals are OK if needed to differentiate proposals

Possible total weighted points range from 0 to 100, while the total possible score is a maximum of 800 points.

Fen Invasive Species Mapping RFP
Proposal Evaluation Form

Submittal Number:	**4**
Contractor Name:	**CK Wetland Services, Inc.**
Review Panelist Name:	**Jenny Mocol-Johnson**

Reviewed Evaluation Criteria	Review Code	Available Codes	Code Description
A. Estimate is within the available allocation	Y	Y, N	Y - Requirements satisfied N - Requirements not satisfied

Scored Evaluation Criteria	Score (1.0 - 5.0)	Points (0 - 100)	Weight	Weighted Points
1. The requirements and specifications addressed clearly and comprehensively	4.5	4.50	10%	0.45
2. The proposed timeline is clear and realistic	5.0	5.00	10%	0.50
3. The technologies and methodologies proposed are clear and suitable for the project	4.3	4.25	15%	0.64
4. The budget is detailed and transparent (does not indicate hidden costs)	3.8	3.75	10%	0.38
5. Qualification and past performance of other key personnel	1.8	1.75	15%	0.26
6. Demonstrated project understanding, including project risks	4.3	4.25	15%	0.64
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice	4.8	4.75	10%	0.48
8. Proposal completeness	4.5	4.50	15%	0.68
		TOTALS	100%	4.01

COMMENTS/QUESTIONS FOR PROPOSER:

Total Proposed Fee $49,645.

Landbridge Ecological is subcontracting with CK Wetland Services to perform the invasive species mapping and monitoring efforts, combining the botantical expertise and field knowledge of Landbridge staff with CK Wetland Services.
Focus on pairing high-resolution GIS-based mapping with trained field personnel to generate data.
Phase 1- Project Mgmt and Coordination (deliverables meeting notes, project schedule, correspondence lot).
Phase 2- Base data prep, 10-15 year review of aerials, drone flights to scout site. Set up mobile data platform (*data loggers and field maps).
Phase 3- Mapping. Deploy 2-4 field crew per fen.
Phase 4- Mgmt Strategies- Strategy Doc.

Schedule for electronic deliverables is incorrect states June 2025 which mapping will not be completed until August.
Does not describe staff quals and past performance.
Expenses high for added project management tasks.

Scoring Legend
5 - Exceptional
4 - Excellent
3 - Good
2 - Fair
1 - Poor

Scores must be between 1.0 and 5.0
Decimals are OK if needed to differentiate proposals

Possible total weighted points range from 0 to 100, while the total possible score is a maximum of 800 points.

Fen Invasive Species Mapping RFP
Proposal Evaluation Form

Submittal Number:	**3**
Contractor Name:	**ISG**
Review Panelist Name:	**Jenny Mocol-Johnson**

Reviewed Evaluation Criteria	Review Code	Available Codes	Code Description
A. Estimate is within the available allocation	Y	Y, N	Y - Requirements satisfied N - Requirements not satisfied

Scored Evaluation Criteria	Score (1.0 - 5.0)	Points (0 - 100)	Weight	Weighted Points
1. The requirements and specifications addressed clearly and comprehensively	4.5	4.50	10%	0.45
2. The proposed timeline is clear and realistic	5.0	5.00	10%	0.50
3. The technologies and methodologies proposed are clear and suitable for the project	4.3	4.25	15%	0.64
4. The budget is detailed and transparent (does not indicate hidden costs)	4.5	4.50	10%	0.45
5. Qualification and past performance of other key personnel	3.3	3.25	15%	0.49
6. Demonstrated project understanding, including project risks	3.8	3.80	15%	0.57
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice	4.0	4.00	10%	0.40
8. Proposal completeness	4.5	4.50	15%	0.68
		TOTALS	100%	4.17

COMMENTS/QUESTIONS FOR PROPOSER:

Total Proposed Fee $37,250

Task 1- Site visits conducted using submeter GPS unit to document invasive species at each location. While onsite T&E species encountered will be identified and their locations mapped. ISG will make observations related to severeity of infestation. Data recordings and photos taken of the sites will be completed during the growing season. Task 1A site visit prep; Task 1B Site visit includes conducting site visits to gauge invasive species spread; Drone flights for aerial imagery; Vegetative meander surveys; Mapping of invasive and T&E; Photos.
Task 2- Development of comprehensive management strategies doc for each fen.
Virtual attendance at two work group meetings.
Optional Community Engagement and Additional Site Visits offered.
Staff with varying educational backgrounds.
Drone useage was not fully explained.

Scoring Legend
5 - Exceptional
4 - Excellent
3 - Good
2 - Fair
1 - Poor

Scores must be between 1.0 and 5.0
Decimals are OK if needed to differentiate proposals

Possible total weighted points range from 0 to 100, while the total possible score is a maximum of 800 points.

Fen Invasive Species Mapping RFP
Proposal Evaluation Form

Submittal Number:	**5**
Contractor Name:	**MNL**
Review Panelist Name:	**Jenny Mocol-Johnson**

Reviewed Evaluation Criteria	Review Code	Available Codes	Code Description
A. Estimate is within the available allocation	Y	Y, N	Y - Requirements satisfied N - Requirements not satisfied

Scored Evaluation Criteria	Score (1.0 - 5.0)	Points (0 - 100)	Weight	Weighted Points
1. The requirements and specifications addressed clearly and comprehensively	4.0	4.00	10%	0.40
2. The proposed timeline is clear and realistic	5.0	5.00	10%	0.50
3. The technologies and methodologies proposed are clear and suitable for the project	4.0	4.00	15%	0.60
4. The budget is detailed and transparent (does not indicate hidden costs)	5.0	5.00	10%	0.50
5. Qualification and past performance of other key personnel	4.0	4.00	15%	0.60
6. Demonstrated project understanding, including project risks	4.5	4.50	15%	0.68
7. Demonstration of thoughtfulness, creativity, innovation, and expertise in professional practice	4.5	4.50	10%	0.45
8. Proposal completeness	4.0	4.00	15%	0.60
		TOTALS	100%	4.33

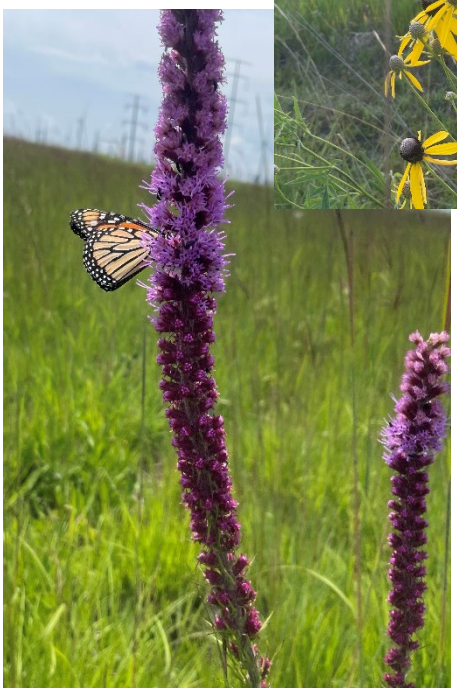
COMMENTS/QUESTIONS FOR PROPOSER:

Total Proposed Fee $25,200
In addition to project, teaming up with a POLLi, the developers of plant identification technology that uses drones and aerial imagery to analyze vegetation. After reviewing and analyzing the data from aerial imagery, MNL will verify the location and boundaries of the signatures and ensure accurate identification. This will not ID all, but will provide detailed mapping of the patches.
Task 2- Level of Severity Review.
No additional or added fees. Expenses for use of POLLi incorporated in costs.
Will also complete field verification.

Scoring Legend
5 - Exceptional
4 - Excellent
3 - Good
2 - Fair
1 - Poor

Scores must be between 1.0 and 5.0
Decimals are OK if needed to differentiate proposals

Possible total weighted points range from 0 to 100, while the total possible score is a maximum of 800 points.



Proposal: Fen Invasive Species Mapping Project

Prepared for: Lower Minnesota River Watershed District (LMRWD)

MNL
8740 – 77th Street NE
Otsego, MN 55362
www.MNLcorp.com

POLLi
www.polligps.com

May 1, 2025

Linda Loomis, Administrator
Lower Minnesota River Watershed District

Subject: Fen Invasive Species Mapping Project

Dear Ms. Loomis:

Thank you for the opportunity to provide a proposal for the Fen Invasive Species Mapping Project to the Lower Minnesota River Watershed District (LMRWD). MNL staff have enjoyed working with you for previous projects and particularly look forward to working more on the calcareous fen communities within the LMRWD. Our approach to this project is outlined in the following proposal with a summary of our expected costs.

Led by Senior Restoration Ecologist Daniel Tix, the MNL team of professional ecologists has been growing since 2022. Dan is now supported by a dedicated team of seven ecologists and wetland specialists that are capable of completing detailed surveys and mapping. In addition, for this project, we are teaming with a POLLi, the developers of plant identification technology that uses drones and aerial imagery to analyze vegetation.

We greatly appreciate that you have reached out to us to help you with this project. MNL and POLLi staff feel that we have developed an approach that will best help you manage these unique natural areas in the long term. Our team is dedicated to making sure that this project is an important priority for this year and that our work benefits these resources.

Please reach out to me if you have any questions, we look forward to hearing from you soon.

Sincerely,

Daniel Tix, PhD, CERP
MNL Senior Restoration Ecologist
952.540.7848 / dan.tix@MNLcorp.com

Scope of Work

Project understanding and approach

The Lower Minnesota River Watershed District (LMRWD) manages several high-quality calcareous fen wetland complexes. Previous studies and assessments within these fen communities have identified populations of rare plants and species unique to this habitat. In addition, previous studies have identified important potential threats to the fens including invasive species within the communities and in adjacent areas. The LMWRD is requesting assistance from contractors to map the invasive species within and near the fens and provide recommendations for management strategies.

The MNL approach is a two-step process for mapping the invasive species. First, we are teaming with POLLi, the developers of technology to identify vegetation via aerial imagery using drones with high quality cameras. After reviewing and analyzing the data from aerial imagery, MNL ecologist will verify the location and boundaries of the signatures and ensure accurate identification. This method will not identify all species within each community or aerial signature pattern, but this will provide detailed mapping of the patches of invasive species.

Work Plan

The detailed work plan is divided into three separate tasks. First, invasive species will be mapped using aerial imagery from a drone to identify unique communities of plants and assessing each for abundance of invasive species. Second, each of the areas with invasive species will be assessed according to level of severity and potential for impacts to native plant communities. Third, management strategies will be summarized with priorities set to individual sites and specific patches of invasive species. The ultimate goal will be to provide a meaningful guidance document for future management of the invasive species in these fens.

Task 1: Invasive species mapping

MNL is proposing to complete the invasive species mapping using very high-quality imagery from aerial drones that fly low over each of the mapped fen areas. The imagery will be stitched together to create maps that can be analyzed for signatures of community types including the presence of particular species at high densities, which will likely be invasive species populations. From the aerial images, the unique signatures of each area will be carefully mapped and plotted into GPS units for on-site verification and ground-truthing. It is estimated that it is the best time to view.

Using the imagery and data from the drone surveys and desktop assessment, MNL ecologists will go to each of the fen communities to confirm the community type and plant species observed at each of the identified signatures. Within each signature, dominant species will be documented and abundance of invasive species will be estimated. It is anticipated that certain areas will have a high abundance of invasive species (greater than 80% cover) while other areas will likely have very low abundance of invasive species (less than 10% cover). The primary goal of the ground-truthing will be to distinguish among these areas in the field and ensure that the aerial mapped boundaries are accurately delineated.

Task 2: Level of Severity

Each of the areas with mapped invasive species will be assessed for severity based on field observations and additional analysis. Generally, areas with high density of invasive species will be assigned higher severity levels. Other factors that will be considered are proximity to high quality fen communities as well as which invasive species is present and the likelihood of further expansion. To determine severity, we will consider previous assessments, professional experience, and specific observations and data collected during mapping. In addition, previous data that include records of state-listed rare species locations, native plant communities, and hydrologic assessments may also be taken into account for developing the severity of these areas.

Task 3: Recommended Management Approach

A report summarizing the management approach will be developed using the mapping data and the level of severity for each unit. This document will include a series of maps showing the invasive species locations, abundance, and the assessed severity. In addition, the document will include a summary of priorities for management and strategies for management in the short term and long term. The strategies will be based on a scaled approach to management with specific goals and objectives for each fen community as well as for all of the fens within the LMRWD.

Deliverables and schedule

The following will be provided to the LMRWD in electronic format on this proposed schedule:

- **July 15:** Aerial photographs created by the drone.
- **August 15:** Invasive species mapping and community mapping data with the assessed severity levels.
- **August 30:** An electronic version of the draft Management Approach report in a Word document (editable).
- **September 30:** An electronic version of the final Management Approach report in a pdf format.

MNL understands that this schedule may be longer than requested by LMRWD and we will attempt to complete each task on a faster timeline. However, we feel that the benefits of the drone flight in late June outweigh the earlier submittal. In fact, a later summer flight may be more optimal for identifying certain species. The approach using a drone will provide an accurate and repeatable method of monitoring the invasive species at the fens and can be completed again in later years, for relatively low cost, to provide updated information on these species.

Assumptions and expectations from LMRWD

- The drone flight will be completed by the end of June. This date assumes approval of this proposal and contracting will be completed by May 15 and that the approval to fly the drones within these areas will be approved in a timely manner. These sites are located near airports and will need approvals that may take somewhat longer than expected. However, it is expected that this work will be approved, though the flights will have to remain low to the ground (which is better for high quality imagery).
- The site locations are based on the GIS data previously provided by LMRWD and based on the areas shown as "Mapped Fens" in the maps provided in the RFI in Appendix A.
    - This includes nine (9) unique polygons within five fen areas (shown as four "Fen

Locations" in Appendix A.

- Access permission to the sites will be provided by LMRWD for two separate site visits to each location: one for the drone mapping and one for the field data collection.
- MNL and POLLi will meet all requirements for aerial drone use at each of the locations including permits, if needed.
- LMRWD will provide comments on the review of the draft report within 2 weeks of receipt of the final report.
- LMRWD will provide MNL all previous assessments and reports completed for these fens.

Key Personnel

Dan Tix, PhD, CERP – Senior Restoration Ecologist

- Univ. of MN, Ph.D. in Plant Biology
- Grinnell College, BA in General Science (Biology); Environmental Studies Concentration
- School for Field Studies, Center for Wildlife Management Studies, Kenya
- 2022 Certified Ecological Restoration Practitioner (CERP): Society for Ecological Restoration

Dan is a restoration ecologist with over 25 years of experience in Minnesota. He prepares vegetation management plans, completes site assessments, and monitors vegetation establishment. Dan also completes botanical surveys, wetland delineations, plans for wetland mitigation, and will assist with permitting and environmental review. He has spent his career providing technical assistance for projects affecting wetlands, vegetation, and other natural resources and building respect with regulators and clients. Specifically, Dan has direct experience with each of the fens for this project and prepared the initial assessment documents for Seminary, Nicols, and Gun Club Lake South fens.

Greg Emerick – Founder, Lead Innovator at POLLi

- St. Cloud State University in Aviation

Greg Emerick is a technology innovator with over 14 years of experience applying remote sensing to real-world challenges in agriculture, conservation, and infrastructure. Greg has built a career at the intersection of aviation, environmental monitoring, and AI. He is the inventor of a U. S. patent that applies multispectral imaging and machine learning to improve perennial crop production through precision analytics. As the founder of POLLi, Greg leads the development of AI-powered tools that analyze drone and satellite imagery to support habitat restoration, invasive species control, and biodiversity monitoring.

Ashley Petel – Restoration Ecologist

- Univ. of MN, MPS in Horticulture and Ecological Restoration
- Univ. of MN, BDA in Architecture
- Professional GIS Certificate from Michigan State University

Ashley has a master's degree with a focus on ecological restoration and has been involved in creating a restoration site assessment tool to quickly evaluate sites for restorability. At MNL she has completed five HMPs for MLT within her first year of work at MNL. She also has experience conducting plant surveys, producing restoration plans, and utilizing GIS and remote sensing technologies. Ashley has spent time in the field installing, maintaining, and monitoring restoration

projects including seeding and planting; invasive species control; prescribed burning; and seed collection. Ashley spent 7 years working at environmental nonprofits building and managing programs to support park and trail stewardship and youth outdoor engagement.

Cost Proposal

The project will be completed on a time and material basis with invoices submitted monthly or after completion of the project. Costs will not exceed the total budget provided in the summary table below.

	Task Description	Price
Task 1a	Drone Imagery and data collection for all sites	$ 6,000
Task 1b	Seminary Fen field mapping (Ground-truthing drone imagery)	$ 3,600
Task 1c	Savage Fen field mapping (Ground-truthing drone imagery)	$ 3,600
Task 1d	Nicols Fen field mapping (Ground-truthing drone imagery)	$ 2,800
Task 1c	Gun Club Lake Fen field mapping (Ground-truthing drone imagery)	$ 3,200
Task 2 and 3	Level of Severity and Management Approach Report	$ 6,000
	Project Total	**$ 25,200**
* Hourly rates for MNL staff are provided in the Fee Schedule below. Rates for POLLi staff are billed based on drone flight distances, standard fees, and image processing, a more detailed breakdown can be provided upon request		

MNL Background

Founded in 1998, MNL is a leading provider of comprehensive ecological restoration services and premium native seed/plants. Our four Minnesota operational facilities include our headquarters in Otsego, and seed production farms in Foley, Glyndon, and Lonsdale. MNL operates under six main divisions, including Professional Services, Construction Services, Vegetation Management Services, Grazing Services, Red Rock Fire, and MNL Seed & Plant Production. Between these divisions, we draw on decades of experience to solve the ecological challenges of our diverse base of clientele. Whether the goal of your project is water quality improvement, creating new wildlife habitat, soil stabilization, or improving your landscape's aesthetics, we have the capabilities to design, implement, and manage various ecological processes as part of your project.

With more than 130 dedicated professionals on our team, and through the completion of more than 1,000 ecological service projects each year, MNL is continually developing innovative solutions tailored for wetlands, prairies, streambanks, rain gardens and shorelines. Our hands-on expertise with site construction, installation services, and vegetation management best practices ensure successful restoration outcomes across an array of ecological systems. MNL clients encompass a full range of private and public sector organizations, including city and county governments, watershed and conservation districts, state agencies, environmentally conscious energy developers and private landowners. In addition to our work throughout Minnesota, MNL provides various products and services to clientele throughout the U.S.

POLLi Background

POLLi is purpose-built for vegetation monitoring and habitat management. It automatically identifies beneficial and invasive plant species, classifies land cover into actionable data layers, and generates treatment maps that guide targeted interventions. Each AI model is developed in collaboration with scientific partners, who ensure its accuracy and efficacy through expert-led validation. This makes POLLi a trusted solution for land stewards, utilities, and environmental professionals.

MNL Fee Schedule

2025 fee schedule

MNL's 2025 fee schedule, presented below, summarizes the billing rates for each of our staffing categories. Appropriate staff will be selected with consideration for both applicable experience and staff billing rates to maintain high-value services for our clients at reasonable costs.

Staff Description	Hourly Rate (US $)
Lead Ecologists / Directors	$200
Senior Ecologists / Project Managers	$160
Field Leads / Technical Staff	$130
Administrative Support	$100

Notes:

1. Mileage will be billed at the IRS-allowable rate.
2. Reimbursable expenses including, but not limited to, the actual and reasonable costs of transportation, meals, lodging, parking, postage, and shipping will be billed at actual cost.
3. Payment for project materials and costs, such as equipment rental, shall be at cost plus 5%.
4. A 14% markup will be added to subcontracts for professional support and construction services, if any, to cover overhead and insurance surcharge expenses.
5. Materials and supplies charges and equipment rental charges will be billed in accordance with a standard rate schedule to be provided upon request.
6. Rates for litigation support services will include a 30% surcharge.

CK WETLAND SERVICES, INC.

REQUEST FOR INFORMATION

FEN INVASIVE SPECIES MAPPING

LOWER MINNESOTA RIVER WATERSHED DISTRICT (LMRWD)

MAY 2025

May 1, 2025

Linda Loomis
Administrator
Lower Minnesota River Watershed District
6677 Olson Memorial Highway
Golden Valley, MN 55427

Re: RFI – Lower Minnesota River Watershed District (LMRWD) Invasive Fen Mapping Project

Dear Linda Loomis,

CK Wetland Services, Inc. appreciates the opportunity to present the Lower Minnesota River Watershed District (LMRWD) with a request for information for Fen Invasive Mapping Project. CK Wetland Services has the necessary technical experience from a wide variety of environmental surveys & professional services. The following proposal details our understanding of your project, scope of services, and expectations. CK Wetland Services is prepared to complete work as requested. A general scope & schedule for these activities is provided later in our proposal. We have provided an outline which depicts an achievable schedule to complete the project and reporting.

All work through CK Wetland Services will be coordinated by the project lead, Curt Kleist. Mr. Kleist is a Professional Certified Wetland Delineator and a Professional Wetland Scientist. He has completed more than 300 projects on a wide variety of wetland projects throughout the US.

The following proposal highlights our understanding of the project, work plan, project approach, and deliverables that will meet the project deadlines.

Project Team

If awarded this SOQ it will be managed by Curt Kleist-Ecological Services Lead/Principal Consultant. Key members of the project team will also include Terry Serres-Field Coordinator, Tory Christensen-Senior Ecologist/PM, and as well as other technical support staff as needed.

Curt Kleist, PWS, CWD
Principal, CEO
CK Wetland Services, Inc.
5 W. Lake Street
Chisholm, MN 55719
(218) 290-8618

Terry Serres
Field Coordinator – Invasive Species Mapping
Senior Botanist, Landbridge Ecological, Inc.
670 Vandalia St, Saint Paul, MN 55114
(612) 503-4220

Tory Christensen
Senior Ecologist and Field Project Manager
Landbridge Ecological, Inc.
670 Vandalia St, Saint Paul, MN 55114
(612) 385-9105

Project Understanding & Approach

Calcareous fens within the Lower Minnesota River Watershed District (LMRWD) are irreplaceable wetland ecosystems sustained by calcareous groundwater discharge. These habitats, including Gun Club Lake North and South, Nicols Meadow, Seminary, and Savage Fens, are listed as "outstanding resource waters" and host unique vegetative communities vulnerable to invasive species. As emphasized in the Fen Stewardship Plans and the Dakota County Fen Assessment Summary (2019-2020), invasive species pose a significant risk to the structure, function, and biodiversity of these sensitive systems.

CK Wetland Services, led by Curt Kleist, PWS, CWD (MN Certified Wetland Delineator #1278), brings extensive experience in wetland delineation, botanical surveys, and ecological monitoring throughout Minnesota. Landbridge Ecological is subcontracting with CK Wetland Services to perform the invasive species mapping and monitoring efforts, combining the botanical expertise and field knowledge of Landbridge staff with CK Wetland Services' leadership in wetland assessment and delineation. This partnership ensures a strong and complementary team, blending technical mapping proficiency with hands-on experience in invasive species management and the most up-to-date and innovative control techniques. Our approach focuses on pairing high-resolution GIS-based mapping with trained field personnel to generate reliable, site-specific invasive species data. We will use this data to guide targeted and scalable management strategies tailored to each fen's condition and ecological priority. Collaboration with the LMRWD Technical Work Group and clear communication with stakeholders will anchor each phase of the work.

This project will be carried out in two major tasks: (1) invasive species mapping, and (2) development of site-specific management recommendations. This effort will include geospatial mapping, botanical surveys, classification of infestation severity, and creation of a scalable management strategy document with short- and long-term treatment options. Coordination with the LMRWD's Fen Technical Work Group will guide the final recommendations.

Work Plan

Phase 1: Project Management and Coordination

- Coordinate with LMRWD and Technical Work Group
- Participate in two virtual stakeholder meetings
- Establish agreement with LMRWD on definition of invasive species to be monitored
- Maintain internal QA/QC standards and scheduling

Deliverables: Meeting notes, project schedule, corresponding log

Phase 2 (Task 1): GIS Mapping and Base Data Preparation

- Compile existing data and prepare site maps
- Off-site scouting: study aerial imagery from last 10–15 years in order to identify likely locations of invasive species; combine with drone flights to scout the sites in advance of the field mapping. These methods will reduce footprint on sites and improve data accuracy.
- Finalize data collection methods for all sites that includes biased methods where suspected invasions have been identified by advance off-site scouting and proximity to conduits for introductions (e.g., roads and streams) and unbiased methods (meanders or transects) to capture emerging invasions not identified by scouting and to help characterize the overall quality of the site; agree on criteria and metric for quantifying severity of invasions
- Set up mobile data collection platforms (Data Logger/Field Maps)
- Develop a digital geodatabase structure aligned with LMRWD standards

Deliverables: Field-ready maps (including locations of suspected invasions), GIS data layers (.shp and PDF formats) for all five fens, data collection protocols, data dictionary for field collectors

Phase 3 (Task 1): Field Based Invasive Species Mapping

- Deploy 2–4-person field team to each fen, depending on site, led by Senior Botanist and Field Coordinator
- Perform both biased and unbiased surveys to identify and map invasive species populations, following our established protocols and using data loggers and high-precision GIS units
- Characterize the mapped invasions: species (common and Latin names), estimated abundance, density and distribution, and phenological status
- Map and record fen indicator species as well as any rare or threatened species per DNR guidance
- We recommend two mapping visits during the field season in order to account for variable phenology of invasive species and the native plant community

Deliverables (per fen): Meeting notes, project schedule, corresponding log

- GIS shapefiles of invasive species populations, cross-referenced to data characterizing each population
- PDF field datasheets
- Summary table of site-specific observations of invasions

Phase 4 (Task 2): Development of Management Strategy Document

- Assess severity and scale of infestations based on mapping data and survey data
- Study and identify likely origins of invasions to inform management strategies
- Recommend 3–5 site-specific short- and long-term control strategies, scaled by severity
- Strategies could include mechanical, chemical, and biological approaches; as well as ecological approaches (such as prescribed fire, restorative seeding, addressing soil fertility) to improve the resilience of the native habitat
- Solicit feedback from Technical Work Group and incorporate stakeholder input before finalizing report

Deliverables (per fen): Meeting notes, project schedule, corresponding log

- Comprehensive PDF management strategy report with integrated maps, severity rankings, and treatment options and prioritization
- Summary matrix of invasive species and recommended treatments per site

Schedule

If awarded this project, CK Wetland Services can schedule the work to commence immediately upon receipt of the executed contract and an authorized “Notice to Proceed”, and access to the project site. We have outlined an example schedule for critical milestones and anticipated dates.

TASK	DATES
Project Setup & Base Data Prep	June 2025 (Early Summer)
Field Invasive Species Mapping 1	June 2025 (Early Summer)
Field Invasive Species Mapping 2	Mid-Summer (Late July-Early August)
Management Preparation, Compilation, & Deliverables	August 2025 (Late Summer)
Final Deliverables	August 31st 2025
Final Electronic Files Delivered	Early - Mid June, 2025

Professional Standard and Quality Management

CK Wetland Services shall perform the Services with a standard expected by professional consultants and with recognized professional standards applicable in the industry, and in accordance with all applicable laws, regulations, standards, and codes. All deliverables will undergo a detailed technical review by our senior ecologists and engineers as appropriate, including a thorough check of any statistical analyses performed. Reviewed documents will be returned to the preparer for revisions, revisions will be completed, and senior staff will perform a final review the revised document prior to submission.

CK Wetland Services strives for excellence in the services we provide and the results we produce for all our clients. We are committed to meeting client expectations, complying with legal requirements, and delivering superior solutions. CK Wetland Services assures the quality of our work through the implementation of a formal Quality Management Program, which is based on the substantive elements of ISO 9001 and other prominent regulatory and industry guidance. CK Wetland Service's business has a written Quality Management Plan describing its quality program. Our management team is committed to quality, and provides the necessary freedom to implement an effective program without undue bias or pressure.

Communication

CK Wetland Services utilizes consistency yet flexibility in communications with our clients. Consistency will be achieved by limiting the group of professionals who will communicate with the Client Project Manager. After kickoff, flexibility will prevail throughout the duration of the project. This allows the technical project leader to communicate directly with the Client assigned technical staff. This direct communication of technical experts promotes a mutual understanding of project objectives and facilitates successful completion of the project.

Curt Kleist will represent CK Wetland Services as the project manager for each Project. We are prepared to assign resources to the Project immediately and will ensure responsiveness to requests, continuity in Project management, and timely and effective work completion. My telephone number is (218) 290-8618, or I may be reached by email at Curt.Kleist@CKWetlands.com. We look forward to working with you. CK Wetland Services strives for excellence in the services we provide and the results we produce for all our clients. We are committed to meeting client expectations, complying with legal requirements, and delivering superior solutions.

CONCLUDING STATEMENT

Thank you for the opportunity to provide this request for information package. CK Wetland Services is prepared to begin our work immediately upon contact authorization. CK Wetland Services has an experienced project team that can meet the goals of this project and incorporate our skills into your individual project-related needs. Project staff qualifications can be are provided. We appreciate your consideration and look forward to the opportunity to work with the Lower Minnesota River Watershed District.

Sincerely,

Curtis P. Kleist, PWS, CWD #1278
Principal, CEO

CK Wetland Services, Inc.
5 W. Lake Street
Chisholm, MN 55719
E-mail: Curt.Kleist@CKWetlands.com
Phone: (218) 290-8618

Invasive Fen Mapping & Management

Time/Cost Estimate

Proposal Number: 251035

5/1/2025

	Labor					Expenses					TOTAL	
	$130.00	$115.00	$95.00			$59.00 per day	$110.00 per night	$0.700 per mile				
DESCRIPTION	Project Manager	GIS Analyst	Technical Writer	LABOR HRS	LABOR COST	Per Diem	Lodging	Mileage	GPS	Expense Total	GRAND TOTAL	
Phase 1: Project Management & Coordination												Invasive Fen Mapping
Project setup and kickoff meeting	24		4	28	$ 3,500.00					$ -	**$ 3,500.00**	
Coordination with LMRWD Technical Work Group	12		4	16	$ 1,940.00					$ -	**$ 1,940.00**	
Mid-project update meeting	2		4	6	$ 640.00					$ -	**$ 640.00**	
Final delivery coordination and QA/QC	10		6	16	$ 1,870.00					$ -	**$ 1,870.00**	
Phase 2: GIS Mapping & Data Management												
Base map compilation and site boundary setup		8	4	12	$ 1,300.00					$ -	**$ 1,300.00**	
Off-site scouting: aerial imagery and/or drone flights		2	20	22	$ 2,130.00					$ -	**$ 2,130.00**	
Establishment of field collection methods		10	10	20	$ 2,100.00					$ -	**$ 2,100.00**	
Data collection setup		12	5	17	$ 1,855.00					$ -	**$ 1,855.00**	
Data integration and post-processing		24	5	29	$ 3,235.00					$ -	**$ 3,235.00**	
Phase 3: Field-Based Invasive Species Mapping												
Quarry Island (Gun Club Lake North), visit 1			10	10	$ 950.00			100	50	$ 120.00	**$ 1,070.00**	
Fort Snelling (Gun Club Lake South), visit 1			22	22	$ 2,090.00			100	50	$ 120.00	**$ 2,210.00**	
Nicols Meadow, visit 1			22	22	$ 2,090.00			100	50	$ 120.00	**$ 2,210.00**	
Seminary Fen, visit 1			40	40	$ 3,800.00			100	50	$ 120.00	**$ 3,920.00**	
Savage Fen, visit 1			40	40	$ 3,800.00			100	50	$ 120.00	**$ 3,920.00**	
Quarry Island (Gun Club Lake North), visit 2			8	8	$ 760.00			100	50	$ 120.00	**$ 880.00**	
Fort Snelling (Gun Club Lake South), visit 2			16	16	$ 1,520.00			100	50	$ 120.00	**$ 1,640.00**	
Nicols Meadow, visit 2			16	16	$ 1,520.00			100	50	$ 120.00	**$ 1,640.00**	
Seminary Fen, visit 2			32	32	$ 3,040.00			100	50	$ 120.00	**$ 3,160.00**	
Savage Fen, visit 2			32	32	$ 3,040.00			100	50	$ 120.00	**$ 3,160.00**	
Phase 4: Management Strategy Report												
Data analysis and severity ranking			5	5	$ 475.00					$ -	**$ 475.00**	
Research and draft management strategies by fen			20	20	$ 1,900.00					$ -	**$ 1,900.00**	
Stakeholder review integration			6	6	$ 570.00					$ -	**$ 570.00**	
Preparation of final report & packaging of deliverables	4		40	44	$ 4,320.00					$ -	**$ 4,320.00**	
Labor Hours:	52	56	371	479								
Labor Cost:	$ 6,760.00	$ 6,440.00	$ 35,245.00		$ 48,445.00	$ -	$ -	$ 700.00	$ 500.00	$ 1,200.00	$ 49,645.00	

May 1, 2025

Linda Loomis
LMRWD Administrator

Lower Minnesota River
Watershed District
112 East 5th Street #102
Chaska, MN 55318

805.709.5353
admin@lowermnriverwd.org

RE: **Response to RFI for**
LMRWD Fen Invasive Species Mapping Project
Minnesota

ISG

Linda,

As the Lower Minnesota River Watershed District (LMRWD) looks to gain a better understanding of the existing vegetation communities in the calcareous fens within their jurisdiction, ISG stands eager and ready to assist. Backed by our in-house, multi-disciplinary professionals, vast industry experience, and a sound project understanding, ISG proposes to provide the following scope of services to meet your project needs.

Project Understanding + Approach

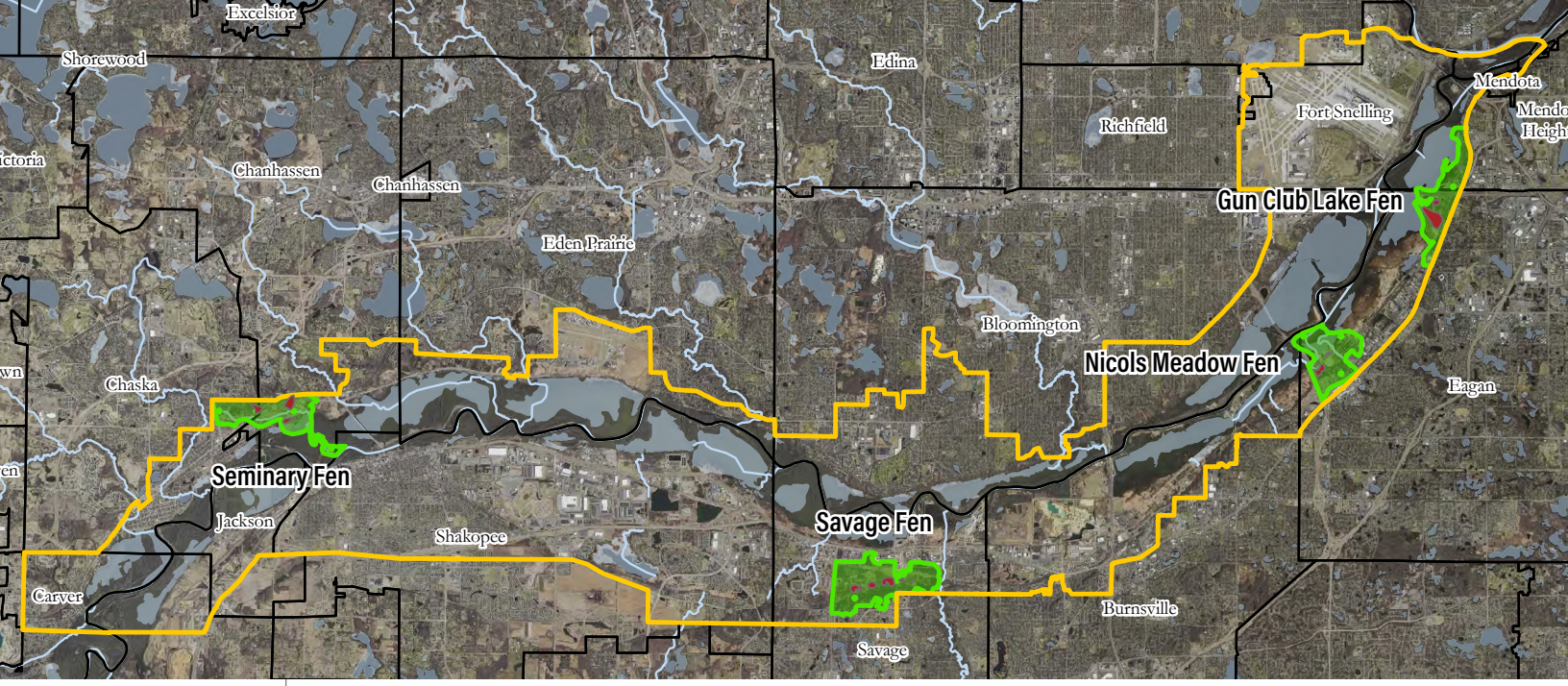
ISG understands the LMRWD is looking to document the health of the calcareous fen plant communities by identifying invasive species present and developing long-term management strategies to implement within the fen areas. The four fens include Seminary Fen, Savage Fen, Nicols Meadow Fen, and Gun Club Lake Fen.

Project Work Plan

Task 1: Invasive Species Mapping

As stated in the request for information (RFI), the identification and mapping of invasive species is a necessary first step in understanding existing conditions of the fens and determining strategies to improve their overall health and function.

This task involves surveying and mapping the extent of invasive species present within each identified fen. ISG's team of environmental scientists and ecologists will conduct site visits, using a sub-meter GPS unit to document invasive species at each location. While onsite, any threatened and endangered (T+E) species encountered will be identified and their locations mapped. ISG will make observations related to the invasive species infestation severity. All data recordings and photographs taken of the sites will be completed during the growing season and will be compiled into a final deliverable format for each fen. This task is broken down on the following page.



- LMRWD Boundary
- Fen Location
- Public Waters
- Public Waterbodies
- Mapped Fens

Task 1A: Site Visit Preparations

- Obtain and review previous reports
- Select sampling methods to collect necessary data
- Gather appropriate equipment and technology

Task 1B: Site Visit

- Conduct site visits to gauge invasive species spread
- Drone flights to collect aerial imagery
- Vegetative meander surveys within each fen
- Mapping of invasive and T+E species within each fen
- Photographs of the project site

Task 1C: Reporting

- Incorporate and analyze vegetation data
- Creating maps of each fen
- Aggregating site photos and aerial imagery
- Drafting the report and supporting documentation

Deliverables

- Memorandum in PDF format with maps and supporting documentation along with a narrative describing survey methodology and results for each fen
- GIS shapefiles (.shp) of data collected during field surveys

Task 2: Determine Site-Specific Management Strategies

Following completion of Task 1, ISG will develop a separate comprehensive management strategies document for each fen to guide future vegetation maintenance and management efforts. During document development, we will work with the Fen Technical Work Group through attendance at two (2) virtual meetings, at which we will provide invasive species mapping results and solicit feedback to be incorporated into the Task 2 deliverable.

Task 2A: Document Development

- Compile data collected during Task 1 to inform adaptive management recommendations specifically tailored to each fen

Task 2B: Meetings

- Virtual attendance at two (2) meetings with the Fen Technical Work Group

Deliverable

- Comprehensive Management Strategies report in PDF format for each fen

Schedule

	2025			
	J	J	A	S
Task 1: Invasive Species Mapping				
Task 1A: Site Visit Preparations	●			
Task 1B: Site Visit	●	●	●	
Task 1C: Reporting			●	●
Task 2. Determine Site-Specific Management Strategies				
Task 2A: Document Development				●
Task 2B: Meetings			●	●

Compensation

ISG proposes to complete the work outlined in this proposal in accordance to the following schedule. Anticipated reimbursable expenses such as travel time, mileage expenses, and printing costs are included.

Phase	Cost
Task 1: Invasive Species Mapping	
Task 1A: Site Visit Preparation	$2,500
Task 1B: Site Visit	
Seminary Fen	$3,500
Savage Fen	$4,000
Nicols Meadow Fen	$2,750
Gun Club Lake Fen	$3,250
Task 1C: Reporting	$12,250
Task 2. Determine Site-Specific Management Strategies	
Task 2A: Document Development	$6,500
Task 2B: Meetings	$2,500
Total	**$37,250**

Applicable Contract

The General Terms and Conditions applicable to this Proposal are available at the link below and are hereby accepted and incorporated herein by reference. Upon acceptance of this Proposal, the parties can proceed with the project based on this signed Proposal, per its General Terms and Conditions, or for more complex projects, ISG, at its discretion, will prepare and require the use of an AIA or EJCDC Contract that will govern the project. ISG's compensation does not include sales or use taxes. Additional information can be found in our General Terms and Conditions.

bit.ly/termsconditions_isg

Acknowledgment of Acceptance

This proposal is valid for 30 days.

Accepted this _____ day

of _____, 2025.

Company: _____
Print

Name: _____
Print

Title: _____
Print

Signature: _____

Attachments

- Firm Overview
- Team
- Experience
- Hourly Rates

Additional Services

Community Engagement + Public Input (Optional)

ISG's in-house marketing team is prepared to develop a customized community engagement strategy, allowing stakeholders to connect to the project and provide valuable public input to guide project goals. By engaging with community groups during the process, ISG can help you seek community support and gather necessary input to build awareness of the wetland management strategies.

Additional Site Visits

ISG can conduct two (2) site visits per fen to gain a more comprehensive picture of the vegetation species present. Many species, particularly T+E species, are only identifiable during short durations of the growing season, making identification efforts time sensitive. A site visit in June would allow for the identification of certain early season species, whether invasive or T+E. A second site visit in August would allow for the identification of certain late season species. Should a second round of site visits be desired, ISG can provide a separate cost estimate for that additional service.

ISG's goal for this proposal, like its services, is to be flexible with accommodating the requirements of this project. Upon request, ISG is able to provide a subsequent proposal to assist with any additional professional services that may be necessary to facilitate this project as it moves forward.

ISG appreciates the opportunity to provide a solution tailored to the needs of the Lower Minnesota River Watershed District. Upon acceptance of this proposal, please sign the acknowledgment box and return a copy of the proposal to our office. We look forward to providing you with responsive service, a collaborative approach, and timely delivery.

Sincerely,

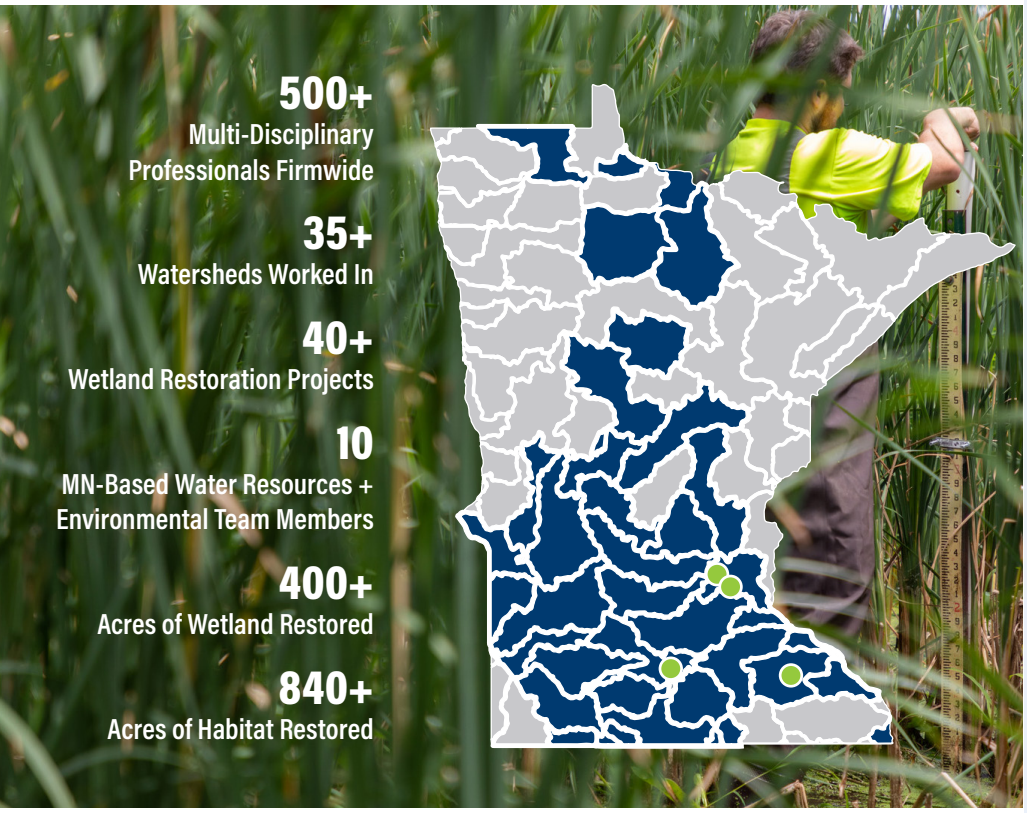
Nick McCabe
Senior Environmental Scientist

Attachment: Firm Overview

MAKING A DIFFERENCE

ISG is one of the leading water resources management firms in the state, breaking ground with projects throughout the Midwest. This is made possible by our full range of multi-disciplinary expertise, boots-on-the-ground experience, and innovative technologies, providing a holistic approach to balancing water quality and development goals, and allowing us to deliver better decisions, faster for our clients.

ISG has a rich history, that extends over 50 years, of building trusting relationships with clients, stakeholders, and the community. As a multi-disciplinary firm that is 100% owned by employees, ISG serves numerous business units and fosters strong collaboration between all disciplines, providing clients a diverse knowledge base, high level of creativity, and broad perspective. ISG's business philosophy is centered around building relationships and constantly adding value through new and creative technologies, professionals, and ideas. ISG's flexibility makes it possible; our focus and innovative solutions make it happen.



ISG Minnesota Offices *Minnesota Watersheds ISG has Completed Work In*

Related Services

Assessments + Permitting

Biological Community Assessment

Best Management Practice Prioritization, Planning, and Implementation

Calcareous Fen Management

Comprehensive Planning

Conveyance

Floodplain Reconnection

Geospatial Data Collection

Geographic Information Systems Mapping, Surveying, and Modeling,

Green Stormwater Infrastructure

Habitat + Recreation Enhancements

Hydrologic Modeling

Landscape Architecture

Monitoring

Natural Channel, Oxbow, and Shoreline Restoration

National Environmental Policy Act Evaluations

Reinforced Concrete Vault Underground

Storm Drainage System

Stormwater Design

Stream + Lake Restoration

Streambank Stabilization

Tree Inventories

Underground Detention

Water Quality Monitoring + Data Analysis

Wetland Banking, Delineation, and Mitigation

Wetland Restoration + Enhancements

Attachment: Team

Nick McCabe

Senior Environmental Scientist

Role: Project Manager

Nick's current duties as senior environmental scientist include staff management, project management and scheduling, and client and agency coordination. He has over 17 years of experience managing projects of all scopes and sizes, though his specific expertise lies in navigating wetland and water resource-related projects. He has completed 11 wetland banking projects, from scoping through monitoring, and has direct experience with 16 additional wetland restoration projects for purposes such as habitat enhancement, nutrient reduction, and storage.

Nick has the expertise to assist staff with field surveys. He has identified vascular plants to the level of species through many seasons of wetland delineation and monitoring projects. Nick has vast experience identifying native tree seedlings, grasses, sedges, and forbs, as well as non-native and invasive species. He has identified species in both vegetative and non-vegetative states from the beginning of the plant growth and flowering season to winter tree and shrub identification.

Education + Training

Bachelor of Science in Earth Science
Minnesota State University, Minnesota

Certified Minnesota Wetland Professional #1218

University of Minnesota Erosion and
Stormwater Management - Certified Site Manager

Project Experience

Covia (Unimin)
South Mine
Le Sueur County, MN

Benz Wetland Bank
Faribault County, MN

Drummer Wetland Bank
Blue Earth County, MN

Ruby Wetland Bank
Jackson County, MN

C.R. Farms Wetland Bank
Le Sueur County, MN

Jewison Wetland Bank
Waseca County, MN

Guentzel Wetland Bank
Blue Earth County, MN

Rice Lake Wetland Bank
Le Sueur County, MN

William Stencel

Ecologist

Role: Lead Field Surveyor

Will works across ISG's 12 business units, designing habitat management plans, custom seed mixes, and native landscapes, as well as completing wetland delineations and tree and vegetation surveys. He has executed vegetation surveys for wetland banks and developed seed mixes. Will has surveyed for state listed and federally listed species such as Western Prairie Fringed Orchid (*Platanthera praeclara*), Snow Trillium (*Trillium nivale*), Small White Lady's-slipper (*Cypripedium candidum*), and Lance-leaved Violet (*Viola lanceolata*). Sustainability and resiliency are at the forefront of his designs, using native plants aligned to their environments to boost the health of ecosystems.

Will is a Department of Natural Resources certified listed species surveyor for the Prairie Parkland and Tall Grass Aspen Parkland Provinces. With three years of restoration experience and 14 months of focused ecology work, Will has focused knowledge and dedication to environmental stewardship.

Education + Training

Bachelor of Science in Business Management
University of Wisconsin

Associate Degree in Horticulture
Central Lakes College

Minnesota Wetland Professional In-Training #5566

Project Experience

Benz Wetland Bank
Faribault County, MN

Drummer Wetland Bank
Blue Earth County, MN

Guentzel Wetland Bank
Blue Earth County, MN

Rice Lake Wetland Bank
Le Sueur County, MN

Minnesota Land Trust
Habitat Management Plan
Kettle River Township, MN

Tifft Nature Preserve
Wetland Restoration
Buffalo, NY

Jewison Wetland Bank
Waseca County, MN

Jeremy Groskreutz

Environmental Scientist

Role: Field Survey + Report Support

As an environmental scientist with ISG, Jeremy applies his knowledge and talents across the firm's 12 business units with a special focus on wetland projects. His services and skills include on- and off-site wetland delineations, monitoring, permitting, functional assessments, mitigation, and banking.

As a certified Geographic Information Systems (GIS) professional, Jeremy assists with mapping and analysis, environmental site assessments, feedlot permitting, and tree surveys. Committed to adding value to the water resources team and each of ISG's clients, Jeremy completed the Minnesota Watershed Specialist Training program, which has deepened his understanding of watershed management. His combined GIS proficiency and watershed management expertise enable him to craft tailored solutions that address both immediate environmental needs and long-term sustainability goals.

Education + Training

Associate Degree in Agribusiness, Agronomy Emphasis, and Civil Engineering Technology
South Central College

Project Experience

Benz Wetland Bank
Faribault County, MN

Drummer Wetland Bank
Blue Earth County, MN

Jewison Wetland Bank
Waseca County, MN

C.R. Farms, LLC Wetland Restoration Monitoring
Le Sueur County, MN

New Ulm High School Wetland Monitoring
New Ulm, MN

Kelly Herfendal

Environmental Scientist

Role: Field Survey + Report Support

Kelly brings a practical and data-driven perspective, with a long-standing interest in nature and passion for environmental conservation. She has worked with the Minnesota Department of Agriculture as a forest pest surveyor and the Minnesota Pollution Control Agency as a Minnesota GreenCorps member. She is a Minnesota Certified Surveyor of Aquatic Plants in Lakes and has experience identifying and monitoring for aquatic invasive species.

Kelly's expertise includes tree inventories, emerald ash borer management planning, implementing Adopt-A-Park programs, aquatic and terrestrial plant surveys, and developing habitat management plans. She assisted in monitoring federally threatened species, the western prairie fringed orchid. Kelly is well versed in translating environmental GIS data into solutions for clients. Kelly identifies sustainable and affordable solutions that clients can feel confident about.

Education + Training

Bachelor of Science in Environmental Science
Wisconsin Lutheran College

Minnesota Wetland Professional In-Training #5542

Licensed Minnesota Tree Inspector #20105258

Project Experience

Guentzel Wetland Bank
Blue Earth County, MN

Drummer Wetland Bank
Blue Earth County, MN

Tifft Nature Preserve Wetland Restoration
Buffalo, NY

Mekinock Bank Site
Mekinock, ND

Lake Washington Hydrology Analysis
Madison Lake, MN

Minnesota Land Trust Habitat Management Plan
Kettle River Township, MN

Attachment: Experience

COVIA (UNIMIN CORPORATION) SOUTH MINE

Le Sueur County, MN

A longtime partner of ISG, Covia (previously Unimin Corporation) was looking to expand their mining operation in Le Sueur County, Minnesota. To ensure that the expansion complied with all environmental regulations, ISG assisted Covia in developing a Scoping Environmental Assessment Worksheet, Scoping Decision Document, Environmental Impact Statement, and Wetland Mitigation permitting for the new site.

Stakeholder Engagement

ISG interacted with stakeholders and the public early and often throughout the process due to the sensitive public interest in mining projects and unique natural resources in proximity to the site. ISG attended public hearings, offered comment periods, attended and hosted open houses, and developed press releases.

ISG provided permitting and technical assistance needed to successfully obtain regulatory approval for this mining plan and continues to provide monitoring services at the site. Due to the site location and the resources present, there were numerous permitting requirements associated with the project, including:

- Wetland Conservation Act Permit for 22+ acres of wetland impacts
  - Project-specific mitigation via restoration of a 40+ acre drained and ditched wetland basin identified within the same major watershed
  - **Exceptional Natural Resource Value (ENRV) credits for hydrologic and vegetative restoration and preservation of Rare Natural Communities, including calcareous fen, seepage meadow, oak woodland, and floodplain forest Native Plant Communities listed as Sites of Biodiversity Significance in the Minnesota County Biological Survey database**
- DNR Calcareous Fen Management Plan (CFMP), including a Calcareous Fen Hydrology Management System
- DNR Public Water Work (PWW) Permit for a 27+ acre Public Water Wetland Basin
  - Project-specific mitigation via restoration of a 40+ acre drained/ditched wetland basin identified within the same major watershed
  - Project-specific mitigation via mine reclamation/creation of a 38+ acre wetland on site
  - Non-credit generating land donation of 73+ acres adjacent to the Cordova Wildlife Management Area (WMA) south of Le Center in Le Sueur County containing a portion of a drained PWW, Schmidt Slough (PWI #40-075W). The land donation allowed the DNR and other conservation organizations to complete a habitat restoration project, including hydrology and vegetation restoration, on the drained PWW while adding a significant amount of land to the Cordova WMA
- DNR Water Appropriation Permit Amendment
- DNR Threatened and Endangered Species Taking Permitting
- County Conditional Use Permit

RUBY WETLAND BANK

Jackson County, MN

The Ruby Wetland Bank in Jackson County underwent a significant restoration to approximately 42 acres of effectively drained agricultural land into three productive and sustainable wetland basins. ISG provided comprehensive land surveying initiatives, including boundary survey, topographic survey, construction staking, as-built surveys and verification, and easement description preparation.

Restoration Through Effective Collaboration

Following the surveying phase, ISG's water solutions professionals used collected data and boundary maps to lead restoration efforts that included 42 acres of wetland restoration and 33 acres of native upland buffer. Wetland hydrology was provided by altering the existing tile drainage system on the proposed wetland bank site and day-lighting it into the basins. The downstream outlet was maintained, so the wetland effectively serves as storage for the public tile system. As this was a County tile system, ISG worked closely with County staff to ensure that upstream and downstream drainage was not negatively impacted. ISG then guided the landowner through the wetland bank permitting process, and walked the contractor through the construction process to ensure the project was constructed as designed.

Monitoring

ISG provided monitoring services following construction of the wetland restorations. The monitoring efforts and associated vegetation maintenance recommendations resulted in a successful native plant community establishment to gain the certificate of completion and ensure maximum credit deposit amounts.

DRUMMER WETLAND BANK

Blue Earth County, MN

The Drummer Wetland Bank was originally a shallow lake, tiled in the early 1900s, and restored to a 30-acre, 8-foot deep wetland with a contiguous 30-acre native prairie upland buffer. The hydrology to the wetland basin was restored by filling the ditch, removing 800 linear feet of existing tile line, building a berm, and constructing an outlet structure on the east side of the basin. As a result, the restored wetland basin functions as a Type 5 open water wetland with a transitional fringe. The vegetation in the wetland bank was restored by seeding the wetland, transition zone, and native prairie upland and planting a mosaic of emergent and submergent aquatic plants in the open water areas. Engineering, surveying, and environmental permitting services were provided, as well as vegetation and hydrology monitoring services during the five-year period following construction.

BENZ WETLAND BANK

Faribault County, MN

A private landowner discovered in historical records that his property used to contain Badger Lake, which was drained to accommodate crop production. The site was drained by a public tile mainline (County Ditch No. 514) and substantial pattern tiling. Seeking to restore the wetland, the landowner reached out to ISG for design and consulting services.

To best restore the wetland, ISG imitated the historical hydrology regime of a shallow lake. Now fully restored, the basin maintains an ecologically suitable deep marsh wetland basin that is over 90 acres in size. The restored wetland provides critical storage capacity within the public drainage system and improves water quality within the watershed by filtering pollutants such as phosphorus and nitrogen and trapping sediments.

Additionally, this multi-disciplinary effort between ISG's environmental scientists, water resource engineers, and land surveyors restored a 60+ acre native prairie upland buffer surrounding the basin, reintroducing critical habitat for migratory waterfowl back into the watershed. The native emergent vegetation in the wetland slows the flow of water, providing important functions such as water retention via peak flow storage, and flood water attenuation.

Working closely with the owner, LGU, Technical Evaluation Panel (TEP), Minnesota Board of Water and Soil Resources (BWSR), the USACE, and Drainage Authority, the project was successfully designed, permitted, has been constructed, and is currently in year four of the monitoring phase.

ADDITIONAL WETLAND MONITORING PROJECTS

Rolling Acres
Mankato, MN

County Woods
Mankato, MN

R & R Properties
Mankato, MN

Jacob Estates
Mankato, MN

Sage Electrochromics
Faribault, MN

Wings Over White Oaks
Mankato, MN

Cottage Homestead
Mankato, MN

Country Club Estates
Mankato, MN

Cottages at Town Hall Acres
Mankato, MN

C.R. Farms Wetland Bank
Le Sueur County, MN

Dan Ruby Wetland Bank
Jackson County, MN

Eastland Development
New Prague, MN

Cougar Estates South
Mankato, MN

Menards Wetland Bank
Marshall, MN

Lime Valley Development
Mankato, MN

Circle Seven
Rice County, MN

Lowes Home Center
Mankato, MN

Circle Lake Wetland
Rice County, MN

AZZ Galvanizing
Winsted, MN

Drummer Wetland Bank
Blue Earth County, MN

C.R. Farms II Wetland Bank
Le Sueur County, MN

New Ulm High School
New Ulm, MN

Jewison Wetland Bank
Waseca County, MN

Benz Wetland Bank
Faribault County, MN

Drummer Wetland Bank 2
Blue Earth County, MN

Guentzel Wetland Bank
Blue Earth County, MN

Rice Lake Wetland Bank
Le Sueur County, MN

Attachment: Hourly Rates

2025 STANDARD HOURLY RATES

Rates are effective as of January 1, 2025 and are subject to change.

Job Type	Hourly Rate
Administrative *I-IV*	$80–150
Architect *I-Senior*	$130–235
Architectural Designer *I-Senior*	$120–180
Business Developer *I-Senior*	$150–230
Business Writer *I-Senior*	$120–140
Civil Engineer *I-Senior*	$150–235
Civil Designer *I-Senior*	$120–180
Commissioning Technician *I-Senior*	$130–190
Construction Administrator *I-Senior*	$120–170
Development Services Coordinator *I-Senior*	$130–200
Electrical Controls Designer *I-Senior*	$210–220
Electrical Engineer *I-Senior*	$160–250
Electrical Designer *I-Senior*	$130–190
Environmental Scientist/Engineer *I-Senior*	$130–215
Finance Consultant *Senior*	$200
General Counsel	$370
Geospatial Specialist *I-Senior*	$105–160
GIS Specialist *I-Senior*	$130–205
Graphic Designer *I-Senior*	$110–130
IT Specialist *I-Senior*	$130–200
Interior Designer *I-Senior*	$130–195
Land Surveyor *I-Senior*	$120–205
Landscape Architect *I-Senior*	$140–215
Landscape Designer *I-Senior*	$120–170
Marketing Consultant *Senior*	$200
Marketing Specialist *I-Senior*	$130–150
Mechanical Designer *I-Senior*	$130–190
Planner *I-Senior*	$130–210
Process Engineer *Senior*	$230
Project Coordinator *I-IV*	$130–180
Project Executive *Senior*	$290
Project Manager *I-Senior*	$140–230
Refrigeration Engineer *I-Senior*	$180–285
Refrigeration Designer *I-Senior*	$140–205
Structural Engineer *I-Senior*	$150–240
Structural Designer *I-Senior*	$120–185

Job Type	Hourly Rate
Technical Writer *I-Senior*	$150–170
Technology Engineer *I-Senior*	$140–220
Technology Designer *I-Senior*	$120–210
Telecommunications Engineer *I-Senior*	$160–240
Telecommunications Designer *I-Senior*	$95–150
Telecommunications Field Designer *I-IV*	$115–145
Telecommunications Project Manager *I-Senior*	$140–230
Visualization Specialist *I-Senior*	$170–220
Videographer	$155
Water/Wastewater Engineer *I-Senior*	$160–250
Water/Wastewater Designer *I-Senior*	$130–190
Water/Wastewater Project Manager *I-Senior*	$140–240
Water/Wastewater Operator *I-IV*	$115–130
Water/Wastewater Project Manager *I-Senior*	$140–240
Water/Wastewater Operator *I-IV*	$115–130

Equipment	Hourly Rate
Survey Grade GPS/Robotics	$62
Mapping Grade GPS	$22
3D Laser Scanner	$80
Manhole Scanner	$75
Mobile Scanner	Varies**
R/C Boat + Sounding Equipment	$58
Surveillance Drone	$60
Photogrammetry Drone	$150
Thermal Imaging Drone	$193
LiDAR Drone	Varies**
All-Terrain Vehicle	$30
Traffic Counter	$15
Pipe Crawler	Varies**

Mileage reimbursement is at the IRS standard rate.
Outside services are billed at cost plus 10%.
***Project-specific rates*

Emmons & Olivier Resources, Inc.
for the *Lower Minnesota River Watershed District (LMRWD)*

Proposal for

Fen Invasive Species Mapping Project

05.01.2025

water ecology community

May 1, 2025

Linda Loomis
LMRWD Administrator
admin@lowermnriverwd.org

Subject: Response to RFI for LMRWD Fen Invasive Species Mapping Project

Dear Linda Loomis:

Fens are a natural resource of statewide importance and we are excited for the opportunity to support LMRWD in their stewardship goals. EOR brings collective decades of experience in invasive species management and direct experience surveying fragile fen ecosystems. The following work plan and cost proposal will deliver high quality invasive species mapping data accompanied by practical and specific management strategies to efficiently accomplish your project purpose.

Sincerely,

Jimmy Marty, CMWP
Ecologist and Project Manager
jmarty@eorinc.com
651.295.4674

EOR's 71 Employees

- 14 Professional engineers
- 9 Engineers-in-training
- 3 Professional landscape architects
- 1 Environmental planner
- 1 Professional geologist
- 1 Certified wildlife biologist
- 1 Restoration ecologist
- 1 Professional wetland scientist
- 4 Certified wetland delineators
- 3 Cert. floodplain managers
- 4 Certified prof. in erosion and sediment control
- 1 GIS professional
- 6 LEED accredited professionals
- 11 Other related professionals
- 25 With master's degree or higher
- 6 With 10-20 years of experience
- 21 With 20+ years of experience

FIRM INFORMATION

Emmons & Olivier Resources, Inc. (EOR)

Is a collaborative group of environmental and design professionals passionate about protecting our waters, restoring healthy ecosystems, & enhancing our community's unique sense of place. We are an employee owned, multi-disciplinary water resource-based firm that specializes in:

- water-resources engineering, watershed planning, & modeling
- environmental compliance, biological surveying, & restoration
- sustainable site design, planning, & landscape architecture

Founded in 1996, Brett Emmons, PE and Cecilio Olivier, PE, recognized the crucial need for providing alternative and sustainable approaches to resources management that would provide long-term, holistic solutions. EOR's multidisciplinary team of engineers, scientists, and landscape architects deliver integrated WATER (Watersheds & Water Resources) + ECOLOGY (Ecosystems & Natural Resources) + COMMUNITY (Civil Engineering & Landscape Architecture) services.

Visit www.eorinc.com for more information.

EOR SERVICES

Water, ecology, and community serve as the foundation for EOR - it represents the interconnected nature of our work, and it forms the main focus of our services. Our general service areas encompass many specific elements that are employed by our multidisciplinary teams across a variety of our projects. These interrelated services are essential in providing the highest value and return for our clients.

Civil Engineering
Feasibility Studies & Initial Planning
Engineering Design
Construction Oversight

Ecological Restoration
Assessments & Diagnostics
Inventories & Surveys
Restoration Design

Environmental Reviews
Environment/Cultural Permitting
Transportation/Site-Related Permitting

GIS & Drone Tech.
GIS Services
Web-Integrated Capabilities
Drone Services

Energy & Utilities
Environmental Assistance & Review
Design, Construction, & Maintenance
Communications & Engagement
Construction & Project Completion

Landscape Architecture
Landscape & Site Design
Landscape & Regional Planning
Communication & Engagement

Planning & Guidance
Planning Documents
Public Engagement & Outreach
Planning Methodologies
Guidance Manuals

Water Resources
Water Quality/Pollutant Reduction
Planning Methodologies
Aquatic Ecology

1 PROJECT UNDERSTANDING & APPROACH

EOR understands the statewide importance of calcareous fens and seepage wetlands, and recognizes the Lower Minnesota River Watershed's unique geophysical characteristics leading to a high density of these wetland types. The LMRWD has comprehensively documented and protected these resources through studies and planning and seeks to steward the fens with invasive species management. EOR will identify and map invasive species within the mapped fens and develop short and long-term management strategies for each fen based on severity and magnitude of documented infestations. Our accurate data and expert recommendations will allow LMRWD to execute concrete objectives to enhance and restore these rare and valued features.

2 PROJECT WORK PLAN

a Services Provided / b Tasks, Deliverables, Assumptions & Expectations of LMRWD

We have divided the project into three tasks: Project Coordination, Invasive Species Mapping, and Invasive Species Management Plans.

Task 1: Project Coordination

The LMRWD and partners possess considerable institutional knowledge of the fen sites. EOR will attend up to two virtual meetings with the Fen Technical Work Group to discuss the work plan, present results of the mapping, and solicit feedback on management strategies. We anticipate a kickoff meeting prior to field work and a debrief meeting to present results and proposed management activities, but are flexible to the needs of the project. This task also includes project coordination such as informal project updates via email and site access coordination.

Task 2: Invasive Species Mapping

Phase 1 of invasive species mapping will include review of existing data, coordination with LMRWD, and preparation of GIS data to aid in field data collection. Based on review of relevé data, fen stewardship plans, and previous EOR work at Savage Fen SNA, expected target species include but are not limited to reed canary grass, non-native Phragmites, hybrid/invasive cattail, glossy buckthorn, and common buckthorn. All observed invasive species beyond targets will also be mapped.

Phase 2 will consist of field data collection to identify and map invasive species. EOR will visit each mapped fen area and record invasive species locations with sub-meter GPS. Mapping units may consist of individual species or polygons with percent cover estimates based on level of infestation and species-specific characteristics. Level of severity will be recorded for all data along with any native species where encroachment threatens fens (e.g. spread of native shrubs due to lack of fire). To support management planning and prioritization, EOR will also record dominant native vegetation within invasive species polygons and in the vicinity of individuals, as well as incidental observations of listed rare plant species. Our skilled team of botanists are intimately familiar with rare fen species in the region. Direct experience includes authorship of the DNR's Savage Fen SNA Adaptive Management Plan in 2017, and current work on a restoration project along Eagle Creek coordinating surveys for fen specialist *Berula erecta*, along with potential mitigation activities.

Task 2 deliverables will include GIS shapefiles and PDF maps of invasive species location and infestation severity. This task assumes completion of field work in summer 2025 with delivery by late summer 2025. This task assumes all fen sites are awarded and field work may be completed concurrently.

Task 3: Invasive Species Management Plans

EOR will draft invasive species management plans for each site (n = 5 plans) that address all mapped fen areas and recorded invasive species locations. We will incorporate feedback garnered from the Fen Technical Work Group meetings into the plans. The plans will be focused on implementation of 3-5 short-term and long-term management strategies that are specific and scaled to the magnitude and severity of infestations and overall fen quality. The plans will be focused on invasive species but consider other management priorities for the fens to ensure a holistic approach that may be integrated with other LMRWD conservation and restoration activities.

Task 3 deliverables will include PDF reports for each fen site detailing management strategies. This task assumes completion by the end of 2025.

3 PROJECT TEAM

a Project Manager & Supporting Personnel

JIMMY MARTY, CMWP
PROJECT MANAGER & ENVIRONMENTAL SCIENTIST

Jimmy has experience as an environmental scientist, specializing in wetland science, environmental due diligence, and natural resource surveys and monitoring. Combined with a research background in ecological restoration, he possesses a well-rounded skill set that contributes to a wide variety of projects, ranging from desktop-level reviews and analysis to expansive field efforts and site assessments.

10 YEARS OF EXPERIENCE

EDUCATION:
MS Ecology, Utah State Univ.
BA Biology, Luther College

STATE REGISTRATIONS:
Cert. MN Wetland Prof. (CMWP)
WDNR Cert. Endangered Resources Reviewer
MNDNR-Listed Aq. Plant Surveyor
Certified Prof. Wetland Delineator, VA

FLORISTIC QUALITY ASSESSMENTS AND NATIVE PLANT COMMUNITY SURVEYS

Wetland Function & Value and Groundwater-Dependent Wetland Inventory
Brown's Creek Watershed District/MN/Ecologist

Conducted 12 rapid FQAs for all sites encompassing a variety of wetland plant community types. Implemented the draft MN BWSR/WI DNR Wetland Assessment Tool at a subset of field sites to assess wetland condition, functions, and values within the Brown's Creek Watershed District. Using trends identified during field implementation, extrapolated data to update wetland management classes for over 700 wetlands. Additionally used remote data to update groundwater-dependent classifications of wetlands.

Miesville Ravine Park Reserve Natural Resource Management Plan
Dakota County/MN/Lead Ecologist

Inventoried and assessed natural resources for an ~1,800-acre regional park reserve, including two spring seepage wetlands. Drafted management recommendations, implementation plan, and budgets for native plant community restoration. Won 2024 ACEC honorable mention for project planning and stream restoration design and construction.

Fen Complex Natural Resources Management Plan
Coralville/IA/Ecologist

Mapped land cover and native plant communities for a complex of rare fen wetlands, dry-mesic oak forest, pasture, and riparian corridor. Prioritized management recommendations, 5-year implementation plan, and cost estimates. Conducted plot-based floristic quality assessments of all wetland units.

Sprague Creek Peatland SNA Adaptive Management Plan
MNDNR/MN/Ecologist

Drafted an SNA Adaptive Management Plan for Sprague Creek Peatland, an 820 acre peatland complex in Roseau County MN. The peatland includes a rare occurrence of the imperiled spring fen plant community class. The AMP included inventory of priority features and management planning, including ditch abandonment for hydrology restoration.

Cannon Valley Trail Rare Plant Species and Fen Support
Cannon Valley Trail/MN/Ecologist

Coordinated rare plant surveys along 4.6-miles of bituminous trail to support proposed trail widening. Assessed DNR-mapped calcareous fen adjacent to the fen for condition and potential impacts. Several rare plant species were recorded. Results and permitting implications were summarized and communicated to the client.

Indian Hills Fen Management Planning & Permit Review
Brown's Creek Watershed District/MN/Ecologist

Reviewed permit application for residential development adjacent to a large fen complex on behalf of Brown's Creek Watershed District. Included review of existing fen management plan, assessment of potential impact, and recommendations to developers to avoid indirect impacts to the fen.

Jasmine Hills Fen Restoration Plan
Private Landowner/MN/Ecologist

Provides fen management recommendations to a landowner in Grant, MN regarding rare species conversation and invasive species management for a large fen complex located on private lands. Currently providing grant support for implementation of complete fen management plan.

MNDNR Restoration Evaluations
MNDNR/MN/Restoration Ecologist

Served as an expert assessor for completed native plant community restorations that used state Legacy Funds. Completed rapid FQAs according to DNR internal methods for each site. Presented findings and provided comments on additional projects with the Restoration Evaluation Panel of subject matter experts.

Invasive Aquatic Plant Delineation & Management
Twin Cities Metro Area/MN/Biologist

Delineated chemical treatment polygons for curly-leaf pondweed and Eurasian watermilfoil according to MNDNR meander methods. Coordinated permitting, performed post-treatment surveys, and drafted management plans for future treatment.

Minnesota Land Trust Habitat Management Plans
Minnesota Land Trust/MN/Ecologist

Completed 15 habitat management plans for private lands in the Laurentian Mixed Forest and Eastern Broadleaf Forest Provinces. Conducted native plant community mapping according to MNDNR field methods and provided management recommendations based on community type and condition, including areas for shoreline restoration.

Lake Rebecca Park Master Plan
City of Hastings via HKGi/MN/Lead Ecologist

Mapped native plant communities and evaluated natural resource restoration opportunities for the city of Hastings' Lake Rebecca Park. Coordinated bidding and implementation oversight for floodplain forest, marsh, oak savanna, and prairie restorations.

Rare Aquatic Plant Surveys
Brown's Creek Watershed Dist./MN/Ecologist

Performed targeted surveys to relocate and identify new populations of rare aquatic plants known to occur within the Brown's Creek watershed. The historical population was relocated and one new population was discovered. An additional rare aquatic plant population was also identified.

Rapid Floristic Quality Assessments
Comfort Lake-Forest Lake Watershed Dist./MN/Biologist

Conducted Rapid Floristic Quality Assessments and assigned quality scores to several wetland complexes within Comfort Lake-Forest Lake Watershed District in Washington County. Assessed RFQA scores in the context of potential water quality projects within the surrounding area.

Jimmy Marty Resume Continued

MIKE MAJESKI
CONSERVATION BIOLOGIST

Mike is a conservation biologist and Project Manager who's implemented over 25 stream projects across MN. He also conducts plant community assessments, wildlife surveys, and provides technical review for resource management plans. Expertise includes stream restoration design, threatened and endangered species surveys, invertebrate sampling and monitoring, pollinator habitat enhancement, and watershed-scale water quality monitoring studies. Mike's knowledge and experience with local flora and fauna makes him an excellent advisor on a variety of projects.

25 YEARS OF EXPERIENCE

EDUCATION:
BA Environmental Biology, Saint Mary's Univ.

CERTIFICATIONS:
MNDNR approved surveyor for Herpetofauna & Birds

NRCS Technical Service Provider

Eagle Creek AMA
MN Trout Unlimited/Fluvial Geomorphologist & Project Manager

Currently designing a stream and seepage wetland restoration project along Eagle Creek to support native brook trout and other species. The project will restore coarse substrates for macroinvertebrates and fish spawning and improve native riparian vegetation and seepage wetlands degraded by development and invasive species. The project will also include expanding suitable habitat for a state-threatened wetland plant discovered in the project site.

Brown's Creek Park Restoration
Brown's Creek Watershed District/Project Manager

Designed and implemented restoration of Brown's Creek that increased aquatic habitat and fish passage, reconnected the floodplain, and restored hydrology of adjacent seepage wetlands previously degraded by significant channel incision. The project also included reconnection of cutoff meanders and 10 acres of woody invasive species management to restore native riparian vegetation.

Brown's Creek Tributaries Restoration
Brown's Creek Watershed Dist./Fluvial Geomorphologist

Designed and implemented restoration of three tributaries to Brown's Creek using Priority 1 approach to reconnect the floodplain and restore hydrology of adjacent seepage wetlands previously degraded by significant channel incision. The project included 5 acres of woody invasive species management and reestablishment of native riparian vegetation.

Miesville Ravine & Trout Brook Restoration
MN Trout Unlimited/Cannon Falls, MN/Lead Design & Project Manager

Designed and implemented an award-winning stream project that included unique stream habitat to support diverse aquatic biota, restoration of floodplain hydrology, pattern & profile adjustments, establishment of native riparian vegetation and pollinator habitat, invasive species management, and creation of vernal pools, slack water refugia, snag trees, and brush pile dens for non-game species. The project also included mitigation and successful transplanting of a state-threatened plant. Project received the 2024 ACEC - National Excellence in Engineering Honor Award.

Aquatic Invasive Species Mgmt. Planning
Comfort Lake-Forest Lake Watershed Dist./Biologist

Projects included invasive plant management, carp management, and invasive species monitoring. Important roles in the project included field assessments, treatment recommendations, and implementation of biological control measures to target purple loosestrife using beetles and weevils.

Adaptive Mgmt. Plans for MNDNR Scientific & Natural Areas
MNDNR/Scientific & Natural Areas/Biologist

Conducted field inventories and assisted in adaptive management plans for multiple Scientific and Natural Areas across Minnesota.

Point-Intercept Aquatic Macrophyte Surveys & Lake Sediment Coring
MN/Biologist

Conducted numerous point-intercept surveys, bathymetric surveys, and collected lake sediment cores in support of lake diagnostic studies in the following MN counties: Aitkin, Beltrami, Big Stone, Carlton, Chisago, Crow Wing, Dakota, Douglas, Freeborn, Grant, Itasca, Ottertail, Pope, Ramsey, Scott, Todd, Traverse, and Washington. Lake surveys were also completed in Wisconsin (Barron and Adams County).

Prior Lake Outlet Channel Vegetation Maintenance
Prior Lake-Spring Lake Watershed Dist./Project Manager & Biologist

Coordinated and conducted invasive plant surveys and managed removal activities along a seven-mile-long outlet channel. Ongoing work includes targeted removals of wild parsnip, garlic mustard, purple loosestrife, phragmites, and other terrestrial invasive species and implementation of biological control using flea beetles (leafy spurge) and beetles and weevils (purple loosestrife).

DREW HARRY
RESTORATION ECOLOGIST

Drew is an ecologist, specializing in natural resource research, management, planning, environmental programs, monitoring, and restoration ecology. He has extensive fieldexperience in wetlands, fish, bird, plant, threatened/endangered, and invasive species surveying and management. Drew has led intensive ecological restoration efforts on rare and unique wetlands for grant-funded, budget-conscious projects. Drew coordinates with stakeholders, organizations, and government agencies.

11 YEARS OF EXPERIENCE

EDUCATION:
BA Environmental,
Science & English
Univ. of Wisconsin-Madison

PROF. ORGANIZATIONS:
WI Wetlands Assoc., Prairie Enthusiasts, Southern WIBird Alliance, Endangered Resources Surveyor, Volunteer WDNR, Botanical Club of WI

Invasive Species Monitoring and Control*
Faville Grove Sanctuary/Lake Mills, WI/Restoration Ecologist

Identified, mapped, monitored, and controlled invasive species (including reed canary grass, phragmites, creeping Jenny, common and glossy buckthorn, purple loosestrife, non-native thistles, and many more) using hand pulling, dig-ging, mowing, herbicide application, and biocontrol methods. The projects resulted in significant reductions in nearly all populations. Extensive use of herbicide, including collaboration with both University and private researchers on methods of control and application. Novel methods were employed for species like cattail, and these methods were monitored for effectiveness. One-time treatments showed upwards of a75% decrease in non-native cattail along seepage slopes, with seeded vegetation resulting in a diverse prairie fen.

Rare Plant Surveys-WDNR
WDNR/WI/Volunteer

Monitored multiple populations of rare species tracked by Wisconsin's Natural Heritage Inventory. Collected data on phenology, species density, plant associates, potential threats to rare species, and flowering data following NHI protocols.

Natural Community Surveys- WDNR
WDNR/WI/Volunteer

Surveyed multiple sites in southern Wisconsin for remnant natural communities with WDNR botanists, assisting with data collection following timed meander surveys. Helped compose species lists and delineate community boundaries of wet-mesic and wet prairies.

Habitat Management Plans 2023-2024
Minnesota Land Trust/MN Statewide/Restoration Ecologist

Conducted fieldwork on over 600 acres, keying out and classifying native plant communities using the Field Guide to the Native Plant Communities of Minnesota. Collected extensive field data including native plant community boundaries, relevé plot data, and species lists for each community. Summarized data with easily digestible maps, figures, and tables, adding context and rich interpretation to the Habitat Management Plan. Used programming to compare plots collected with MNDNR database of over 8,000 plots. Provided management recommendations and trajectories based on extensive experience actively managing natural communities in the Midwest.

Restoration Design/Seed Collecting*
Faville Grove Sanctuary/Lake Mills, WI/Restoration Ecologist

Collected species ranging from broad generalists to specialists with a single suitable location in the Sanctuary, from dry lime prairies to prairie fen, reestablishing stands of important and locally extirpated species like *Triantha glutinosa*, *Solidago ohiensis*, and *Parnassia glauca*.

Located and hand-collected approximately 400 native species annually, totaling about 1,000 pounds to enhance biodiversity in a 1,300-acre nature sanctuary in southeastern Wisconsin.

Management plans included natural community mapping following WDNR keys and methodology for all 96 units within the Sanctuary; included species lists and characteristic and/or dominant species; included bird community profiles; included management trajectories, ideas, and implementation strategies.

Endangered Species Monitoring for Native Plants*
Faville Grove Sanctuary/Lake Mills, WI/Restoration Ecologist

Monitored threatened, endangered, or special concern species, including eastern prairie white-fringed orchid, white lady's slipper orchid, purple milkweed, and 21 additional listed species in Wisconsin occurring within the Sanctuary.

Annual Vegetative Baseline Surveys*
Faville Grove Sanctuary/Lake Mills, WI/Restoration Ecologist

Designed and implemented an annual sampling protocol for monitoring vegetation at approximately 500 stations across the 1,300-acre Sanctuary, spanning the full spectrum from emergent marsh to sand prairie. Each unit (n=40) also received annual timed meander surveys, Floristic Quality Assessments, and relevé plots, which better characterized soils, landform, landscape setting, and captured diversity patterns and condition of the plant communities, both remnant and restored.

Habitat Enhancement for Endangered Native Plants*
Faville Grove Sanctuary/Lake Mills, WI/Restoration Ecologist
Successfully established several new populations of white lady's slippers from seed. Oversaw a record population and cross-pollination across four sites of white-fringed orchids – including over 200 flowering stems in a 20-acre wet-mesic prairie remnant. Increased populations of nearly every tracked threatened/endangered species within the sanctuary.

City of Grand Marais Tree Management Plan
City of Grand Marais/Grand Marais, MN/Ecologist
Designed sampling methodology for thousands of acres of City-owned land in Grand Marais, Minnesota. Analyzed data collection in detailed report, using tables and figures from task-specific ecology packages in RStudio. Supplemented on-the-ground analysis with construction of a Canopy Height Model in RStudio, cleaning, filtering, and analyzing point Canopy Height Model in RStudio using LiDAR Point Cloud data to delineate tree crowns, identify individual trees, and determine tree height. Used point cloud analysis to estimate tree/acre by height class, dbh and height distribution of each class, and predict density and species composition.

** Experience is prior to EOR employment.*

Drew Harry Resume Continued

4 COST PROPOSALS

a Work Plan Tasks with Breakdown Cost per Fen (to Map)

TASK	SCHEDULE	COST	ASSUMPTIONS
Task 1: Project Coordination	**May-Dec. 2025**	**$2,900**	**Two (2) virtual meetings**
Task 2: Invasive Mapping	**July-Sept. 2025**		**Assumes all fen sites are awarded and fieldwork completed concurrently**
• Nichols Meadow		$1,100	
• Gun Club Lake North		$600	
• Gun Club Lake South		$1,400	
• Savage Fen		$1,800	
• Seminary Fen		$1,800	
• GIS Preparation and Post Processing		$2,600	
Task 2: Subtotal		**$9,300**	
Task 3: Invasive Species Mgmt. Plans	**Sept.-Dec. 2025**	**$11,400**	**Individual plans to be completed for five (5) sites**
TOTAL		**$23,600**	

4 COST PROPOSALS

b Hourly Rate

Classification	Hourly Rate (*)
Professional 1	$129.00
Professional 2	$162.00
Professional 3	$189.00
Professional 4	$218.00
Technician 1	$93.00
Technician 2	$112.00
Technician 3	$137.00
Project Principal	$239.00
Senior Principal	$265.00
Support Staff	$89.00

Name	Classification	Hourly Rate (*)
Jimmy Marty	Prof. 2	$162
Mike Majeski	Prof. 4	$218
Drew Harry	Prof. 1	$129

Professionals:

Includes licensed and nonlicensed engineers, landscape architects, geologists, scientists, surveyors, field professionals, and geospatial professionals with bachelor's or advanced degrees.

Technicians:

Work requires a combination of basic scientific knowledge and manual skills which can be obtained through two years of post high school education, such as is offered in technical schools, community colleges, or through equivalent on-the-job training.

Principals:

Officers and departmental managers at the highest level of EOR staff classification performing technical and quality control supervision.

Support Staff:

Non-manual clerical work performed by office administrators, administrative assistants, bookkeepers, messengers, office helpers, and clerks.

Additional Notes:

- Reimbursable expenses (Reproduction, Printing, Duplicating, Mileage at current government rates, DGPS equipment, field supplies, use/rental of special equipment, etc.) will be billed at cost.
- Subcontracted services will be billed at cost plus 15% to cover overhead expenses.
- Expert witness trial and deposition testimony will be billed at the above hourly rates times 1.5.
- Payment is due upon receipt of invoice. If the invoice is not paid within thirty (30) days after invoice date, Client will also pay a finance charge thereon of 1.5 percent or the maximum rate allowed by law, whichever is less, for each month thereafter or portion thereof that an invoice remains unpaid.

(*) Rates reviewed and adjusted on an annual basis.

BOLTON & MENK
Real People. Real Solutions.

12224 Nicollet Avenue
Burnsville, MN 55337

Phone: (952) 890-0509
Bolton-Menk.com

May 1, 2025

Linda Loomis
Administrator
Lower Minnesota River Watershed District
112 East 5th Street | Suite 102
Chaska, MN 55318

RE: Fen Invasive Species Mapping Project RFI

Dear Linda:

The Lower Minnesota River Watershed District (LMRWD) has initiated the Fen Invasive Species Mapping project to identify and map invasive species and determine management actions to control them. Fens are a rare and ecologically important wetland type that need to be monitored and managed through the LMRWD Fen Stewardship Plan. This project will allow LMRWD to understand existing conditions of the fens and determine strategies to improve the overall health and function of the fens within the watershed district.

Local Expertise – Lower Minnesota River Watershed District wants a consultant who is familiar with your watershed. Many Bolton & Menk staff have worked on dozens of projects in this immediate area over the past decade. Our staff is currently implementing the fen contingency plan for the Greenway Trail Bridge Project, which is adjacent to the Gun Club Lake South Fen. We have also completed multiple delineations in the area of Fort Snelling State Park and the Seminary Fen area in Chaska. We have more than 900 employees, we offer the expertise of a national firm, but we are just down the road.

Invasive Plant Species Experts – our staff regularly identify both native and invasive plant species through completing wetland delineations as well as surveys of our dozen wetland banks throughout Minnesota. We complete invasive species meander surveys and corresponding mapping on over one thousand acres per year. We survey and map sites varying from two acres to over 300 acres. We provide our wetland bank clients with detailed management plans to manage the invasive species on their restoration sites, with the ultimate goal of getting the bank easement to have below 10% invasive species. We utilize tried and true techniques while keeping on top of up-and-coming experimental treatments. Our company is the only one in Minnesota to offer biological controls to treat purple loosestrife. Our staff understands how to scale management approaches that work for our client's individual sites and have seen great success in helping bank sponsors reduce invasive species at their sites.

In continued service to the Lower Minnesota River Watershed District, we are excited at the opportunity to complete the Fen Invasive Species Mapping project. I will personally serve as your lead client contact and project manager. Please contact me at 507-327-6014 or Kristina.bloomquist@bolton-menk.com if you have any questions regarding our proposal.

Sincerely,
BOLTON & MENK, INC.

Kristina Bloomquist

Kristina Bloomquist, MWPCP, PWS
Natural Resources Project Manager Lead

PROJECT UNDERSTANDING

Working with multiple restoration sites totaling over 1,000 acres every year, Bolton & Menk natural resources staff understand how invasive species can negatively impact native plant communities and how critical it is to manage those invasives. Our team works with a variety of stakeholders including landowners, agencies, and land management companies to ensure invasive species management is implemented efficiently and effectively and recognize how important communication and coordination is in that process. Our proven survey and management plan techniques will guide us as we survey and map invasive species within the five identified fen locations and develop short-term and long-term management strategies to be implemented. Natural resources staff will develop detailed and easy to understand invasive species maps for each fen. We understand management strategies need to be site-specific and will develop 3-5 strategies for both short-term and long-term management per fen location to target invasive species at each site, based on the level of severity of invasive species found at the site.

WORK PLAN

Task 1: Invasive Species Meander Survey and Mapping

The natural resources group with use both on-site meander surveys of invasive species and drone surveys to develop a composite invasive species map for each fen site. Drone surveys would be utilized to prevent sensitive areas from further damage of vegetation and to maximize staff time and effort. A list will be developed that notes the invasive species encountered at each site, and also note if any threatened or endangered species were encountered. Our staff will develop detailed and easy to understand invasive species maps for each fen. Mapping will visually represent species, percentage cover, and aerial cover of each species for each fen. Shapefiles representing this information will be provided as well.

Task 2: Invasive Management Plan

We will attend two meetings with the Fen Technical Work Group to provide results of the invasive species mapping and to gain feedback on management strategies. From there, development of a management plan for each fen will occur. The management plan will include 3-5 short-term and long-term management strategies to be implemented to address invasive species.

Deliverables:
Task 1:

- Species list with common and scientific names in Excel format.
- Shapefiles from survey.
- Invasive species maps for each fen.

Task 2:

- Management plan document for each fen.

Assumptions:

- The “Mapped Fens” areas as shown on the provided Appendix A document to be surveyed for invasive species
- Areas with water deeper than depth accessible in waders will not be surveyed

- Drones are permitted to fly above the fen locations
- Fen locations are on public land; if on private land LMRWD will obtain landowner permission to access fen locations
- A maximum of 50 threatened or endangered species will be encountered and surveyed.
- No extenuating circumstances such as extreme flooding or other weather or site conditions do not prohibit site access and delay schedule.
- No more than two rounds of feedback and editing of data, maps, or the management plan document will occur.

Expectations of LMRWD Staff:

- Provide proof of landowner permission for any fen areas located on private land, if applicable.
- Provide timely responses to information requests submitted by Bolton & Menk to complete work tasks.

SCHEDULE

Vegetation surveys will be conducted in June through July of 2025. The invasive species management plan will be completed August through September of 2025.

KEY PERSONNEL

Kristina Bloomquist

Natural Resources Project Manager Lead

Project Manager

Kristina has been working for Bolton & Menk since 2017. She is certified through the Minnesota Wetland Professional Certification Program. Kristina completes invasive and native plant surveys and mapping for our wetland banks. She also develops wetland bank plans, long term management plans, and invasive species management plans. She coordinates implementation of these plans with various stakeholders including private landowners, agencies, and land management companies for projects throughout Minnesota. She is on the MNDNR rare plant surveyor list for vascular plants in the Eastern Broadleaf Forest region and has completed many rare plant surveys throughout central and southern Minnesota since 2019.

Madeline Maurer

Senior Natural Resources Specialist

Drone Pilot & Vegetation Surveyor

Madeline holds a BA in Environmental Studies and a Masters in Environmental Science with a focus in Natural Resource Management. Madeline has been working for Bolton & Menk since 2022. Madeline is certified through the Minnesota Wetland Professional Certification Program and is a certified drone pilot under FAA Part 107. During her time with Bolton & Menk, her field work has focused on the metro. She completes yearly drone flights for 6 of Bolton & Menk's wetland banks. Madeline completes invasive and native plant surveys and mapping for our wetland banks, completes wetland delineations, and aquatic resource impact permitting for projects throughout Minnesota.

Addeline Theis Paradis

Natural Resources Specialist

Vegetation Surveyor

Addie graduated with a Bachelor of Science degree focused in Botany. She continued her education at Minnesota State University, Mankato with a Masters of Science in Biology Education. Starting in 2021, as a part of job duties at Bolton & Menk, Addie

completes plot and meander surveys of native and invasive species on prairie and wetland restoration throughout Minnesota & Iowa. She has assisted with a variety of state-listed species surveys since 2022, including butternut (*Juglans cinerea*), kitten-tails (*Synthyris bullii*), and Hooded Arrowhead (*Sagittaria montevidensis ssp. calycina*). In 2024 & 2025 she focused on survey efforts for Rusty-Patched Bumble Bee Habitat Assessments and monarch habitat monitoring. In 2024, she assisted Derek Anderson with MNDNR to survey federally-listed species Dwarf Trout Lily (*Erythronium propullans*) and Western Prairie Fringed Orchid (*Platanthera praeclara*). This will be her third year volunteering for the Minnesota Plant Watch volunteer program where she has surveyed for edible valerian (*Valeriana edulis var. ciliata*), cut-leaf water parsnip (*Berula erecta*), cowbane (*Oxypolis rigidior*), rattlesnake master (*Eryngium yuccifolium*), Sullivant's milkweed (*Asclepias sullivantii*) and plains wild indigo (*Baptisia bracteate*). Through this volunteer work, she has already surveyed at the Nicols Meadow to review threatened and endangered species.

Kathryn Farber

Water Resources Scientist Project Manager

Vegetation Surveyor

Katie is a water resources scientist project manager at Bolton & Menk. Katie graduated with a BS degree in Environmental Studies. She is a technical expert for stream and wetland biological monitoring programs. She trains groups in invertebrate and vegetation survey protocols, invertebrate and vegetation identification skills, and aquatic invasive species recognition and reporting practices. She reviews invertebrate and vegetation samples for identification accuracy, analyzes data and data trends, and reports results. Her experience also includes conducting various methods of vegetation surveys in upland, woodland, lake, and wetland habitats. She has conducted invasive species control and research throughout the course of her career, as well as shoreline and native plant restoration design, installation, and maintenance.

McKenzie Librande

Natural Resources Specialist

Vegetation Surveyor

McKenzie holds a Bachelor of Science degree in Environmental Science-Aquatic Biology and a Master of Science in Conservation Biology. She is a water resources scientist at Bolton & Menk whose professional career started in 2021. She has technical experience in lake water quality issues and management, a strong background in sediment and water quality chemistry, fisheries and stream monitoring experience, and is skilled in aquatic vegetation surveys and has wetland delineation experience. McKenzie supports the Low Salt Solutions Initiative, engages in environmental research, planning and presenting, and supports client education. McKenzie has been excited to provide education to others, having experience with teaching in her past, and has an enthusiastic mindset in making a difference in protecting our water resources.

PROJECT EXPERIENCE

Greenway Trail Bridge Fen Contingency Plan

Dakota County, MN

Bolton and Menk staff completed delineations dating back to 2013 along the Greenway Trail in the City of Eagan, located near Fort Snelling State Park. The project area is adjacent to a fen (Gun Club Lake Fen). As part of the permitting process for the Greenway Trail Bridge, the MNDNR requested a fen contingency plan be completed to have a plan in place to protect the Gun Club Lake fen throughout construction. This fen contingency plan included pre

and post-construction monitoring of hydrology of adjacent springs and groundwater wells, and vegetation adjacent to the fen within the bridge construction limits.

Sibley Meadows Wetland Bank

Sibley County, MN

Bolton & Menk completed the entire wetland bank permitting and design process for the Sibley Meadows Wetland Bank located in Sibley County, MN. We completed a delineation of the 159 acre property and worked through the wetland bank plan permitting process to obtain approval from local and federal agencies. Our natural resources staff completed monitoring of the wetland bank restoration for five years, monitoring invasive species through meander surveys and native species through plot surveys. We mapped these invasive species to provide to the landowner and land management company, and provided invasive species management techniques for their use. The bank was released from monitoring in 2025, following meeting the final vegetation performance standards.

Rusty Patch Bumblebee (RPBB) Mitigation Plan

Carver County, MN

The natural resources team at Bolton & Menk worked on the Trunk Highway 5 road widening project in Victoria, completing delineations, permitting, and federal species mitigation. Due to permanent habitat impacts to federally endangered RPBB from this construction, formal consultation from USFWS determined mitigation was required. The BMI team worked together to create a mitigation plan to restore existing RPBB habitat to higher quality for the benefit of RPBB populations. An invasive species survey occurred to determine limits of Buckthorn, Reed Canary Grass and Garlic Mustard within the proposed restoration area. The BMI team developed an invasive species management plan within the overall site restoration plan.

Merriam Junction Trail Rare Plant Survey

Scott County, MN (sub to SRF)

The natural resources team at Bolton & Menk was sub-contracted by SRF to complete a survey for multiple state listed species along the Scott County's proposed trail corridor. The survey resulted in a finding of a state-listed aquatic species adjacent to the trail corridor. Through working with the MNDNR, avoidance of indirect impacts to the individual plant was able to be obtained for the construction of trail.

Purple Loosestrife Control

Various Clients

Bolton & Menk staff have been conducting purple loosestrife biological control for many years, including with a previous employer. We provide catch and release and rear and release options using *Galerucella* beetles following MnDNR protocols. Customers have included the City of Minnetonka, Gleason Lake Association, subcontract with AES, White Bear Preserve Condo Association, VLAWMO, City of Superior WI, and private landowners.

FEES

The cost for the above scope of services is proposed on the following page.

Client: Lower Minnesota River Watershed District Project: Fen Invasive Species Mapping			Bolton & Menk, Inc.						
Task No.	Work Task Description	Schedule	Project Manager (Kristina)	Drone Pilot (Maddie)	Vegetation Surveyor (Addie)	Vegetation Surveyor (Katie)	Vegetation Surveyor (McKenzie)	Total Hours	Total Cost
1.0	Invasive Species Survey & Mapping	*June through July*	18	156	168	96	96	534	$71,736
1.1	*Gun Club North*		*2*	*20*	*16*	*6*	*6*		
1.2	*Gun Club South*		*4*	*18*	*20*	*16*	*16*		
1.3	*Nicols Meadow*		*4*	*32*	*36*	*22*	*22*		
1.4	*Seminary*		*4*	*54*	*56*	*30*	*30*		
1.5	*Savage*		*4*	*32*	*40*	*22*	*22*		
2.0	Invasive Species Management Plan	*August through September*	14	26	28	16	16	100	$13,826
	Total Hours		32	182	196	112	112	634	
	Average Hourly Rate		$170.00	$135.00	$128.00	$160.00	$112.00		
	Subtotal		$5,440	$24,570	$25,088	$17,920	$12,544		
	Total Fee								**$85,562**

Expenses:

Site		One trip miles	Total Miles	Miles * $0.70	Lunch Cost	Total Mileage Cost	Total site amount
Gun Club North	Addie	165	165	$ 115.50	$ 13.00		
	Maddie	55	55	$ 38.50	$ 13.00		
	Katie	55	55	$ 38.50	$ 13.00		
	McKenzie	55	55	$ 38.50	$ 13.00	$ 231.00	**$ 283.00**
Gun Club South	Addie	160	160	$ 112.00	$ 13.00		
	Maddie	50	50	$ 35.00	$ 13.00		
	Katie	50	50	$ 35.00	$ 13.00		
	McKenzie	50	50	$ 35.00	$ 13.00	$ 217.00	**$ 269.00**
Nicols Meadow	Addie	165	330	$ 231.00	$ 26.00		
	Maddie	50	100	$ 70.00	$ 26.00		
	Katie	50	100	$ 70.00	$ 26.00		
	McKenzie	50	100	$ 70.00	$ 26.00	$ 441.00	**$ 545.00**
Seminary	Addie	122	366	$ 256.20	$ 39.00		
	Maddie	48	144	$ 100.80	$ 39.00		
	Katie	48	144	$ 100.80	$ 39.00		
	McKenzie	48	144	$ 100.80	$ 39.00	$ 558.60	**$ 714.60**
Savage	Addie	165	330	$ 231.00	$ 26.00		
	Maddie	42	84	$ 58.80	$ 26.00		
	Katie	42	84	$ 58.80	$ 26.00		
	McKenzie	42	84	$ 58.80	$ 26.00	$ 407.40	**$ 511.40**